



MODEL YEAR **2022**

**OWNER'S / OPERATOR'S MANUAL**



**UTILITY VEHICLE**

**⚠ Read this manual carefully before operating this vehicle.**

**ADVENTURER  
SPORT 2+2**



**DR2 CAMP  
POWERTECH AC IRS**



**WARNING:** This product can expose you to chemicals including phthalates and lead which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# INTRODUCTION

---

Congratulations on your purchase of a Yamaha Adventurer Sport 2+2 Vehicle. This manual contains information you will need for proper operation, maintenance, and care of your sport vehicle. A thorough understanding of these simple instructions will help you to obtain maximum enjoyment from your new Yamaha.

If you have any questions about the operation or maintenance of your sport vehicle, please consult a Yamaha dealer.

**Yamaha Golf-Car Company**

**DR2 CAMP POWERTECH AC IRS  
OWNER'S/OPERATOR'S MANUAL**  
© 2022 by Yamaha Golf-Car Company  
1st edition, May 2021  
All rights reserved. Any reprinting  
or unauthorized use without the  
written permission of  
Yamaha Golf-Car Company  
is expressly prohibited.  
Printed in U.S.A.  
LIT-19626-A2-07

# IMPORTANT MANUAL INFORMATION

---

Particularly important information is distinguished in this manual by the following notations:

|                                                                                                 |                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death. |
|  <b>WARNING</b> | A <b>WARNING</b> indicates a hazardous situation which, if not avoided, could result in death or serious injury.                                                                   |
| <b>NOTICE</b>                                                                                   | A <b>NOTICE</b> indicates special precautions that must be taken to avoid damage to the four-passenger vehicle or other property.                                                  |
| <b>TIP</b>                                                                                      | A <b>TIP</b> provides key information to make procedures easier or clearer.                                                                                                        |

## TIP

---

Yamaha continually seeks advancements in product design and quality; therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your vehicle and this manual. If you have any questions concerning this manual, please consult your Yamaha dealer.

## **WARNING**

---

**Read and understand this manual completely before operating your vehicle. This manual should be considered a permanent part of your vehicle and should remain with the vehicle when resold.**

---

# CONTENTS

---

CONTENTS

WARRANTY

1

IMPORTANT LABELS

2

 SAFETY INFORMATION

3

CONTROLS

4

PRE-OPERATION CHECKS

5

OPERATION

6

MAINTENANCE AND ADJUSTMENT

7

STORAGE

8

SPECIFICATIONS

9

WIRING

10

©2022 Yamaha Golf-Car Company

# WARRANTY

## 2-YEAR LIMITED WARRANTY FOR TRANSPORTATION AND UTILITY VEHICLES

Yamaha Golf-Car Company hereby warrants that any new Yamaha utility vehicle or any multi passenger cars or specialty vehicles purchased from Yamaha, or an Authorized Dealer or Distributor in the United States will be free from defects in material and workmanship for TWO years from date of purchase, subject to the stated limitations. DURING THE PERIOD OF WARRANTY, any authorized Yamaha golf car service technician, dealer, or distributor will, free of charge, repair or replace, at Yamaha's option, any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the vehicle's warranty period. All parts replaced under warranty become property of Yamaha Golf-Car Company.

| Car Components                         | Warranty Period | Electric Car Specific Parts   | Warranty Period                                                                 |
|----------------------------------------|-----------------|-------------------------------|---------------------------------------------------------------------------------|
| Brake System (Excluding Shoes / Drums) | 2 Years         | Battery - Trojan T875 FLA     | 4 Years or 23,500 amp whichever comes first / without HydroLink Watering System |
| Body Parts                             | 2 Years         |                               | 4 Years or 25,000 amp whichever comes first / with HydroLink Watering System    |
| Bumpers / Rear Floor Cover (Bag Well)  | 2 Years         |                               | *See Trojan Warranty Statement for details                                      |
| Electrical Wires, Switches, and Relays | 2 Years         | Battery - Trojan T875 AGM     | 5 Years or 50,000 amp hours whichever comes first                               |
| Frame Assy                             | 2 Years         |                               | *See Trojan Warranty Statement for details                                      |
| Floor Mats                             | 2 Years         | Battery Charger and DC Cord   | 2 Years                                                                         |
| Pedal Assy                             | 2 Years         | Electric Motor and MCU        | 2 Years                                                                         |
| Scorecard Holder                       | 2 Years         | Charger Receptacle            | 2 Years                                                                         |
| Seats                                  | 2 Years         | Throttle Sensor Assy          | 2 Years                                                                         |
| Steering / Suspension Components       | 2 Years         | <b>Gas Car Specific Parts</b> |                                                                                 |
| Transaxle / Transmission               | 2 Years         | Clutch (Excluding Drive Belt) | 2 Years                                                                         |
| Common Accessories                     | Warranty Period | Intake and/or Exhaust System  | 2 Years                                                                         |
| Windshield                             | 3 Years         | Gas Engine                    | 2 Years                                                                         |
| Sun Top                                | 2 Years         | Starter Generator             | 2 Years                                                                         |
| Tail Light                             | 2 Years         | Starting Battery              | 1 Year                                                                          |
|                                        |                 | Throttle / Control Cables     | 2 Years                                                                         |
|                                        |                 | All Remaining Parts           | 1 Year                                                                          |

**EXCLUSIONS** from this Warranty shall include any failures caused by:

- Abnormal strain, neglect, or abuse, including lack of proper maintenance, and use contrary to the Owner's/Operator's Manual instructions.
- Accident or collision damage.
- Installation of parts or accessories that are not original equipment.
- Fading, rust, or deterioration due to exposure or ordinary wear and tear.
- Modifications or alterations that affect the car's condition, operation, performance, or durability.
- Damage due to improper transportation.
- Acts of God, e.g. lightning, hail damage, flooding, fire, etc.

This Limited Warranty does not cover any parts replaced due to normal wear or routine maintenance, including oil and air filter elements, brake shoes, tire wear, spark plugs, starter and clutch drive belts. Any charges incurred in transporting a golf car or charger to and from an authorized Yamaha golf car dealer for service or in performing field service are also excluded from this warranty. Gasoline-powered golf car starting batteries on vehicles equipped with a golf course GPS device, or any other device with a parasitic current draw, unless the vehicle is equipped from the factory with an optional deep cycle starting battery, are also excluded from this warranty.

**The Customer's Responsibility under this warranty shall be to:**

- Operate and Maintain the golf car, personal transportation vehicle (PTV), or commercial (Utility) vehicle as specified in the appropriate Owner's/Operator's manual, and
- Give notice to an authorized Yamaha Golf car dealer/distributor of all apparent defects within ten (10) days of discovery, and make the car available at that time for inspection and repairs at the dealer's/distributor's place of business, and
- Transporting the car to and from an authorized dealer or distributor for warranty service.

**WARRANTY TRANSFER:** This warranty is to the original purchaser and is not transferable.

### EMISSION CONTROL SYSTEM WARRANTY:

Yamaha Golf-Car Company also warrants to the ultimate purchaser of each gas-powered golf car covered by this warranty that the product is designed, built, and equipped so as to conform at the time of sale with all U.S. emission standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the same time period described in THE PERIOD OF WARRANTY above, or a minimum of two years, whichever is longer. Failures other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

**Yamaha Golf-Car Company makes no other warranty of any kind, expressed or implied. All implied warranties of merchantability and fitness of merchantability and fitness for a particular purpose which exceed the obligations and time limits stated in this warranty are hereby disclaimed by Yamaha Golf-Car Company and excluded from this Warranty.**

**Some states do not allow limitations on how long implied warranty lasts, so the above limitation may not apply to you. Also excluded from this Warranty is any incidental or consequential damages including loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This Warranty give you specific legal rights, and you may also have other rights, which vary from state to state.**

## 4-YEAR LIMITED WARRANTY FOR TROJAN® BRAND BATTERIES WHEN CHARGED WITH A YAMAHA PROVIDED 48-VOLT CHARGER

Yamaha Golf-Car Company (herein referred to as "YGC") hereby warrants to the Original Retail Purchaser or Lessee of a Yamaha Drive2 Golf car, PTV, Multi passenger, or Utility car purchased from Yamaha, or an Authorized Dealer or Distributor in the United States, that the Trojan® brand batteries charged with a Yamaha provided battery charger will be free from defects in materials and workmanship, and will provide "36-hole performance" as follows:

- 4-years or 20,000 amp-hours with T-105 FLA
- 4-years or 21,500 amp-hours with T-105 FLA batteries & the addition of a factory-installed Trojan HydroLink Battery Watering System.
- 4-years or 23,500 amp-hours with T-875 FLA
- 4-years or 25,000 amp-hours with T-875 FLA batteries & the addition of a factory-installed Trojan HydroLink Battery Watering System.
- 5-years or 50,000 amp-hours with T-875 AGM

### WARRANTY LIMITATIONS

Yamaha Golf-Car Company's and Trojan Battery Company's limit of liability shall be to replace a defective battery. Replacement shall mean furnishing a new battery or used battery with sufficient life to complete the remainder of the warranty term, at no cost to the purchaser during the limited warranty period, except for labor or transportation expenses. The following conditions apply:

- Amp-hours will be determined either through the PC Genius controller or through other means necessary in the event of a controller failure or replacement.
- This warranty only applies to factory installed Trojan battery sets charged with a Yamaha provided battery charger.
- The customer must perform (or have a contracted Yamaha Dealer perform) all periodic maintenance and discharge testing as specified in the Yamaha Service Manual Maintenance Schedule. No labor or transportation expenses are included in this limited warranty. Maintenance records must be kept.
- YGC supplied or approved replacement batteries may be of a different brand or capacity, but are warranted to provide 36-hole performance for the remainder of the original warranty term.
- "36-hole performance" is defined as 60-minutes discharge time as tested and recorded using a Lester model #17770 discharge machine at an ambient temperature of between 60 and 100 degrees F (16 and 38 degrees C). Ambient temperatures between 60 and 80 degrees F (16 and 27 degrees C) must be corrected using the formula: Adjusted Discharge Time = (Discharge Minutes) / (1-(((80-TEMP)/100) x 0.64)).
- The customer must notify the Dealer within 10 days that a vehicle has failed to make 36 holes per day. YGC reserves the right to test and recharge any battery in question.

**ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE VOID AND EXCLUDED SUBSEQUENT TO ONE YEAR FROM THE DATE OF PURCHASE. THE REPLACEMENT OF THE BATTERY IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. YAMAHA MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, AND NO REPRESENTATIVE, EMPLOYEE, DISTRIBUTOR OR DEALER OF YAMAHA HAS THE AUTHORITY TO MAKE OR IMPLY ANY REPRESENTATION, PROMISE OR AGREEMENT WHICH IN ANY WAY VARIES THE TERMS OF THIS WARRANTY.**

### LIMITED WARRANTY EXCLUSIONS:

Without limiting the generality of the foregoing in any way, and as part of its limited warranty exclusion, YGC does not warrant that its battery is suitable for use in any application other than in a golf car or utility vehicle. As in the use of any battery, a prudent owner will read and study the charger owner's manual, the vehicle owner's manual, the operator's instructions, and the battery warning labels; and will exercise due care in working on or around batteries.

### THE PROVISIONS OF THIS LIMITED WARRANTY SHALL NOT APPLY IF BATTERIES ARE SUBJECT TO ANY OF THE FOLLOWING CONDITIONS:

- Abuse or neglect such as improper fluid levels, loose wiring, rusted or corroded hardware.
- Lack of proper maintenance as outlined in the electric vehicle Owner's / Operator's Manual. For example, lack of regular battery watering or adding water to battery before charging.
- Damage caused by improper installation of the battery.
- Neglect, breakage, freezing, fire, explosion, wreckage, the addition of any chemical, or the operation of the battery in an uncharged condition (below half-charge – 1.200 specific gravity).
- Battery charged by systems other than the original equipment type battery charger.
- On fleet golf cars, the use of any non-YAMAHA supplied electrical devices that consume more than one amp-hour per round or two amp-hours per day of battery energy. Examples of these devices include, but are not limited to: heating or cooling systems; GPS (global position system) devices; information gathering devices; lights; radios or stereos; or yardage measuring devices.
- Less than one charger per car or inadequate facility electrical power to power all chargers. Examples include more than one charger on a single circuit, circuit rating of less than 15 amps, or not enough circuits for the number of cars.
- In fleet applications, less than one battery charger per vehicle. For example, using only 10 battery chargers to charge a 15 car fleet.
- The use of any system that does not allow the battery chargers to shut off automatically. For example, timer systems that are designed to switch battery charger AC power on and off during peak demand hours.
- Damage not resulting from a defect in materials or workmanship or which occurs due to abuse or neglect (including failure to provide reasonable and necessary maintenance), accident, alteration or acts of God is excluded from this limited warranty.

THIS BATTERY IS INTENDED TO BE USED BY PERSONS WITH TRAINING AND EXPERIENCE WITH BATTERIES AND ONLY IN YAMAHA ELECTRIC VEHICLES. ANY OTHER USE RENDERS THE LIMITED WARRANTIES EXPRESSED HEREIN AND ALL IMPLIED WARRANTIES NULL AND VOID AND SAME ARE HEREBY EXCLUDED.

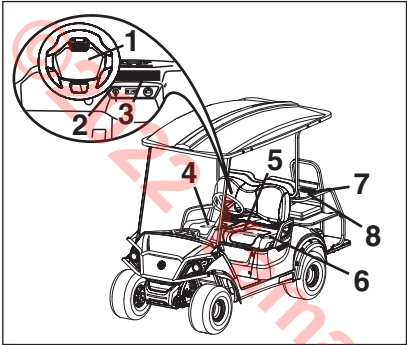
ALSO EXCLUDED FROM THIS LIMITED WARRANTY ARE ANY AND ALL INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF USE OR REVENUE, LOSS OF TIME, INCONVENIENCE OR ANY OTHER ECONOMIC LOSS.

Some states do not allow limitation on the duration of an implied warranty, exclusions or limitations of incidental or consequential damages. Therefore, the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary by state to state.

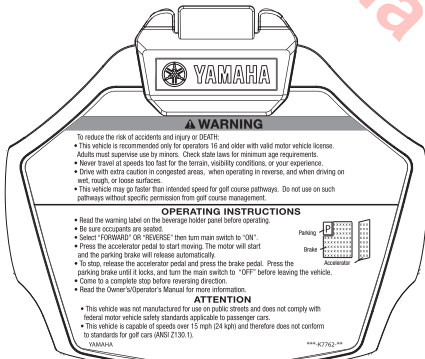
# IMPORTANT LABELS

## SAFETY AND INSTRUCTION LABELS

Read the following labels carefully before operating your utility vehicle. If any of these labels are damaged or missing, contact a Yamaha dealer for replacements.



1



# IMPORTANT LABELS

2



3

## ⚠ WARNING

To reduce the risk of accidents and injury or DEATH:

- Read the label located on the steering wheel before operation.
- Operate **only** when authorized and only in designated areas.
- Operate from **driver's** seat only.
- This vehicle is **restricted to 2 occupants** per bench seat.
- Do not start vehicle **until** all occupants are seated.
- Remain seated and **hold on** when in motion.
- Keep entire body inside vehicle.
- Drive slowly in turns.
- Drive straight up and down slopes.
- Set parking brake before leaving vehicle.
- Turn main switch to "OFF" and remove key when not in use.
- Do not operate or ride while distracted or under the influence of alcohol or drugs.

DRIVER  
UNDER  
16

YAMAHA

\*\*\*-K776B-\*\*

4

YEAR OF CONSTRUCTION: \*\*\*\* MY\*\*\*\*  
YAMAHA MOTOR POWERED PRODUCTS CO., LTD  
200-1 SAKAGAWA, KAKEGAWA, JAPAN  
MAX. BATTERY WEIGHT: \*\*\* kg  
NOMINAL SYSTEM VOLTAGE: \*\*V  
CURB WEIGHT (\*\*\*\*): \*\*\*\*\*kg (\*\*\*\* lb)  
CURB WEIGHT (\*\*\*\*): \*\*\* kg (\*\*\*\* lb)  
VEHICLE LOAD CAPACITY: \*\*\* kg PER SEAT  
This vehicle complies to SAE-J-2258 2016  
\*\*\*-F4236-\*\*

CE UK  
CA CA

MODEL: \*\*\*\*\* \*\*  
MAX. POWER: \*\*\* hp (\*\*\* kW)  
G.V.W.R.: \*\*\*\*\* kg (\*\*\*\* lb)

5

|                                                          |                                                                |                                                                                                                                                                                  |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                   |                                                                                                                                                                               |
|----------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BATTERY INSTALLATION AND WIRE LEAD CONNECTION</b><br> | <b>INSTALLATION DES BATTERIES ET RACCORDEMENT DES FILS</b><br> | <b>⚠ WARNING</b><br>Explosive gases are released when batteries are charged or discharged. • Never smoke, flame or ignite anything. • Do not open valves working near batteries. | <b>⚠ AVERTISSEMENT</b><br>Les gaz explosifs se dégagent lors de la charge ou de la décharge des batteries. • Ne fumez, ne faites aucun feu, et n'allumez rien. • Ne pas ouvrir les vannes lorsque vous travaillez près des batteries. | <b>⚠ WARNING</b><br>Sulfuric acid in batteries will burn skin, eyes, and clothing. • Do not tip batteries. • Keep vent caps tight and sealed. • In the event of a spill, flush with water and get medical attention immediately. | <b>⚠ AVERTISSEMENT</b><br>L'acide sulfurique dans les batteries peut brûler la peau, les yeux et les vêtements. • Ne pas renverser les batteries. • Gardez les bouchons aérés et les joints serrés. • En cas de déversement avec l'acide, rincez abondamment avec de l'eau et consultez immédiatement un médecin. | <b>⚠ WARNING</b><br>Electrical shorts can result in burns. • Do not make connections to live wires. • Do not make connections to negative cables. | <b>⚠ AVERTISSEMENT</b><br>Les courts-circuits électriques peuvent causer des brûlures. • Ne pas relier les bornes positives à des bornes négatives ou à une masse métallique. |
|----------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# IMPORTANT LABELS

2

6

## NOTICE

Move switch to the "TOW" position before towing or storage. Failure to do so may lead to:

- Drive system damage when towing.
- Complete battery discharge and battery damage when storing long term.
- After moving switch from "RUN" to "TOW", wait 15 seconds minimum before switching again.

## NOTIFICATION

Mettre l'interrupteur a position "TOW" avant de remorquer ou avant l'entreposage. Non-observation pourrait:

- Dommages de système d'entrainement en remorquant.
- Causer une decharge totale de la batterie et endommager la batterie pendant l'entreposage a long terme.
- Apres avoir change l'interrupteur de position "RUN" a position "TOW", attendre un minimum de 15 seconds avant de le remettre.

YAMAHA

\*\*\*-K8298-\*\*

7

## ⚠ WARNING

To reduce the risk of accidents and injury or DEATH:

### CARRYING PASSENGERS

- Do not allow more than 2 passengers in this seat.
- Maximum load in seat: 181 kg (400 lb)
- Remain fully seated and hold on to the hand holds when in motion.
- Keep entire body inside vehicle.
- Do not allow children to ride unsupervised in this seat.

### CARRYING CARGO

- When seat is flipped down, do not carry passengers in cargo area.
- Maximum load in cargo area (including footrest and bagwell): 110 kg (250 lb)
- Load may affect handling and stability.
- Secure cargo so that it will not shift - a loose load could change handling unexpectedly or be thrown forward and strike occupants.

- Keep weight in the cargo area centered side to side, and as low and as far forward as possible. Top-heavy loads increase the risk of overturn.
- When loaded with cargo:
  - Reduce speed and allow more room to stop.
  - Turn gradually and go slowly.
  - Avoid hills and rough terrain.
- Read Owner's/Operator's Manual before loading.

Static electricity sparks can ignite fuel vapor causing FIRE or EXPLOSION.

- Do not fill portable fuel container (gas can) in vehicle.
- Set fuel container on the ground and touch fuel nozzle to the unopened container before removing cap.
- Keep the fuel nozzle in contact with the container while fueling.
- Tighten cap before putting fuel container in vehicle.



- Keep hands, body, other persons, away from pinch points on surface below when flipping the seat.

YAMAHA

\*\*\*-K8483-\*\*

8

## ⚠ WARNING

Improper tire pressure or overloading can cause loss of control. To reduce the risk of accidents and injury or DEATH:

- Operating tire pressure: set with tires cold.

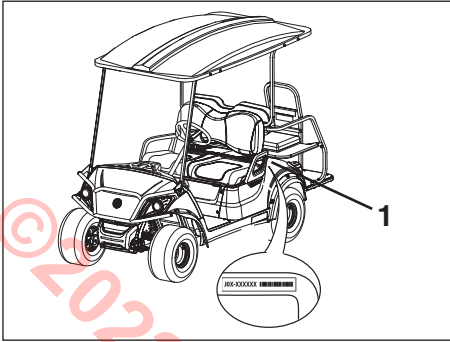
| Tire size      | Recommended     |                 | Minimum         |                 |
|----------------|-----------------|-----------------|-----------------|-----------------|
|                | Front           | Rear            | Front           | Rear            |
| 20x10-8 4ply   | 84 kPa, 12 psi  | 97 kPa, 14 psi  | 70 kPa, 10 psi  | 84 kPa, 12 psi  |
| 205/65-10 4ply | 152 kPa, 22 psi | 152 kPa, 22 psi | 138 kPa, 20 psi | 138 kPa, 20 psi |
| 18x8.50-8 4ply | 152 kPa, 22 psi | 152 kPa, 22 psi | 138 kPa, 20 psi | 138 kPa, 20 psi |

- Never set tire pressure below minimum. Tire may dislodge from rim.

YAMAHA

\*\*\*-F1696-\*\*

# IMPORTANT LABELS



1. Sport vehicle serial number

## SERIAL NUMBER

The sport vehicle serial number is identified in the location shown.

### TIP

The first three digits of the serial number are for model identification; the remaining digits are the unit production number. Keep a record of these numbers for reference when ordering parts from a Yamaha Golf-Car Company dealer.

Serial number:

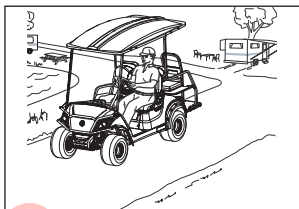
# SAFETY INFORMATION

Yamaha sport vehicles are designed to be simple to operate. However, be sure to observe the following to reduce the risk of serious injury or death due to loss of control and other hazards:

## BEFORE OPERATING THE SPORT VEHICLE

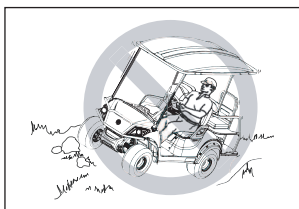
- Read this Owner's/Operator's manual and all safety and instruction labels on the sport vehicle before operating.
- Perform the pre-operation checks found in Section 5 of this manual.
- This vehicle is recommended only for operators 16 and older with a valid motor vehicle license. Adults must supervise use by minors. Check state laws for minimum age requirements.
- Do not allow more than two occupants per seat. This sport vehicle is restricted to four occupants.
- Never give a ride to a passenger who is unable to put both feet firmly on the floorboard while seated with his or her back against the backrest.
- Never carry passengers on the cargo bed.
- Do not operate the sport vehicle while under the influence of alcohol or drugs; their effect on vision and judgment make operating a sport vehicle dangerous.
- This vehicle was not manufactured for use on public streets and does not comply with federal motor vehicle safety standards applicable to passenger cars.
- Do not operate the sport vehicle on public streets, roads or highways unless allowed by law or local regulating authority.
- Do not make any modification or addition which affects capacity or safe operation, or make any changes not in accordance with the owner's/operator's manual.





## WHILE OPERATING THE SPORT VEHICLE

- Keep your entire body inside the sport vehicle, remain seated and hold on when the vehicle is in motion.
- Do not start the sport vehicle until all occupants are seated.
- Always keep both hands on the steering wheel when driving. Always go at a speed that is proper for the terrain, visibility, and operating conditions, and your experience. Go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when driving the vehicle.
- Never operate on excessively rough, slippery, or loose terrain.
- Use extra care in congested areas or when backing up. Always back up slowly, and watch carefully.
- Avoid starting or stopping abruptly.
- Avoid turning the steering wheel too sharply at higher speeds to avoid tipping or rolling the vehicle.
- Never attempt jumps or other stunts.
- Always drive slowly straight up or straight down slopes – never at an angle to avoid tipping or rolling the vehicle. Never operate the vehicle on slopes that are too steep for it or for your abilities.
- Never operate on slopes that are slippery or ones where you will not be able to see far enough ahead of you. Never go over the top of a slope at speed if you cannot see what is on the other side.
- Always check terrain carefully before going down slopes. Go as slowly as possible. Never go down a slope at high speed.
- Always check for obstacles before operating in a new area.
- Never operate the vehicle in fast flowing water or water deeper than 15 cm (6 in). Remember that wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them several times to let friction dry out the linings.



## CARRYING PASSENGERS

- This vehicle is designed to carry the driver and up to three passengers. When a seat is flipped down, do not carry passengers in the cargo area.
- Do not allow more than 2 people in each bench seat.
- Maximum load per seat: 181 kg (400 lb)
- Passengers must remain fully seated and hold on to the handrails when in motion.
- Do not allow children to ride unsupervised in the rear bench seat.

## ACCESSORIES AND LOADING

### Accessories

Accessories can affect the handling and control of your vehicle. Keep the following in mind when considering an accessory or operating a sport vehicle which has accessories.

- Choose only accessories designed for your sport vehicle. Your Yamaha dealer has a variety of genuine Yamaha accessories. Other accessories may also be available on the market. However, it is not possible for Yamaha to test all non-Yamaha accessories, nor have any control over the quality or suitability of them. Choose a genuine Yamaha accessory, or one that is equivalent in design and quality.
- Accessories should be rigidly and securely mounted. An accessory which can shift position or come off while you are operating could affect your ability to control the sport vehicle.
- Do not mount an accessory where it could interfere with your ability to control the sport vehicle. Examples include (but are not limited to) an object that limits your ability to turn the steering wheel or one that limits your view.
- Use extra caution when driving a sport vehicle with accessories. The sport vehicle may handle differently than it does without accessories.

## Loading

Cargo can change the stability and handling of a sport vehicle. You must use common sense and good judgment when carrying cargo. Keep the following points in mind:

- Never exceed the weight limits shown on page 58. An overloaded sport vehicle can be unstable.
- Capacity for cargo area (including footrest and bagwell: 110 kg (250 lb))
- Cargo should be as far forward on the cargo area as possible, and distributed evenly from side to side. Be sure cargo is secured so that it cannot move around during operation.
- Make sure the load does not interfere with controls or your ability to see where you are going.
- Drive more slowly than you would without a load. The more weight you carry, the slower you should go. Although conditions vary, it is good practice not to exceed low range whenever you are carrying heavier loads or when towing a trailer.
- Allow more braking distance. A heavier vehicle takes longer to stop. Do not brake abruptly when carrying loads on the cargo bed.
- Avoid making sharp turns unless at very slow speeds to avoid tipping or rolling the vehicle.
- Avoid hills and rough terrain. Choose terrain carefully. Added weight affects the stability and handling of the sport vehicle.

## MAINTENANCE REQUIRED FOR SPORT VEHICLE SAFETY

Practice the following to help ensure the safety of vehicle operators and passengers:

- **Preventative Maintenance.** Perform all scheduled maintenance in accordance with manufacturer's recommendations to provide the user with a safe, properly operating vehicle.
- **Personnel.** Allow only qualified, trained and authorized personnel to inspect, adjust and maintain the vehicle.



## SAFETY INFORMATION

3

- **Parts and Materials.** Use only replacement parts and materials recommended by the manufacturer.
- **Ventilation.** Properly ventilate all maintenance and storage areas in accordance with applicable fire codes and ordinances to avoid fire hazards. Ventilation is also required to remove hydrogen gas from the vehicle storage areas during the battery charging process.

For electric powered vehicles, the amount of hydrogen gas emitted during charging depends on a number of factors, such as the condition of the batteries, the output rate of the battery charger, and the amount of time the batteries are on charge. Because of the highly volatile nature of hydrogen gas and its propensity to rise and accumulate at the ceiling in pockets, a minimum of five air changes per hour is recommended. Consult applicable fire and safety codes for the specific ventilation levels requirement, as well as requirements for the use of explosion proof electrical apparatus.

### SAFETY PRECAUTIONS DURING MAINTENANCE

When performing maintenance, follow all safety instructions contained in the manufacturer's operation and service manuals, as well as the following safety procedures:

- Properly immobilize vehicle before beginning any maintenance to avoid any unexpected vehicle movement.
- Properly block chassis before working underneath vehicle to avoid any unexpected vehicle movement.
- When working on the battery, do not smoke, or allow any sparks or open flames near the vehicle, to avoid any fires or explosions.
- Before working on an electric vehicle, disable the car's electrical system in accordance with the manufacturer's instructions to avoid electrical shock or damage to the electrical system.
- Use only properly insulated tools when working on electrically powered vehicles or around batteries to avoid electrical shock or damage to the electrical system.

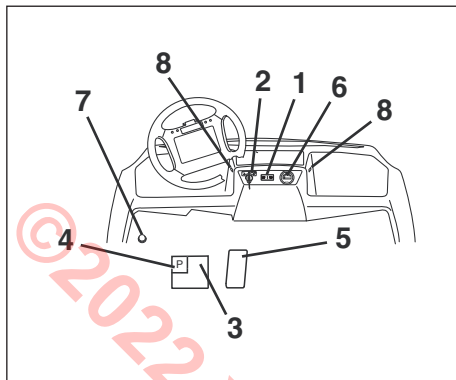
- Maintain all safety devices including brakes, steering mechanisms, warning devices, and governors, in a safe operating condition. Do not modify these safety devices as supplied by the manufacturer.
- After each maintenance or repair, the vehicle must be driven by a qualified, trained and authorized person – in an area free of pedestrian traffic – to ensure proper operation and adjustment.
- Record all maintenance performed in a maintenance record log by date, name of person performing maintenance and type of maintenance. Periodically inspect maintenance log to ensure accurate and complete entries.
- Maintain in a legible condition all nameplates, warnings and instructions provided by the manufacturer.
- If new nameplates, warnings or instructions are needed, contact your Yamaha dealer.

### **STORAGE AND BATTERY CHARGING**

Take the following precautions to ensure maintenance worker safety:

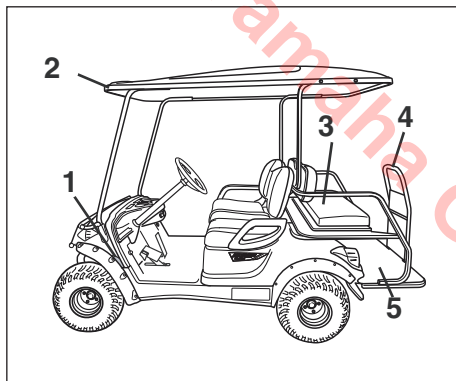
- Only use battery changing and charging facilities and procedures that are in accordance with applicable ordinances and regulations to avoid explosions, electrical shock or damage to the electrical system.
- Periodically inspect charging facilities and procedures to be certain that applicable safety codes, regulations and procedures are being followed to avoid any fires or explosions.

# CONTROLS

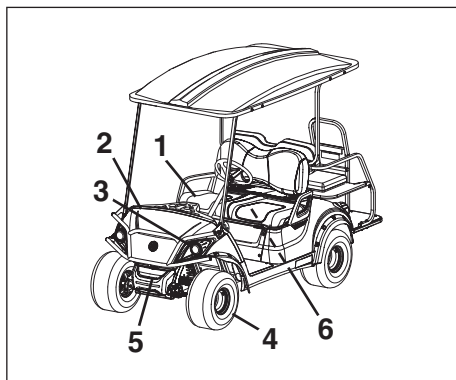


## FEATURES

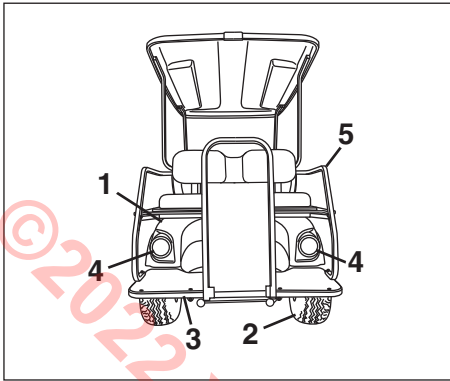
1. Drive select switch
2. Main/Light switch
3. Brake pedal
4. Parking brake pedal
5. Accelerator pedal
6. Battery gauge
7. Horn switch
8. USB ports



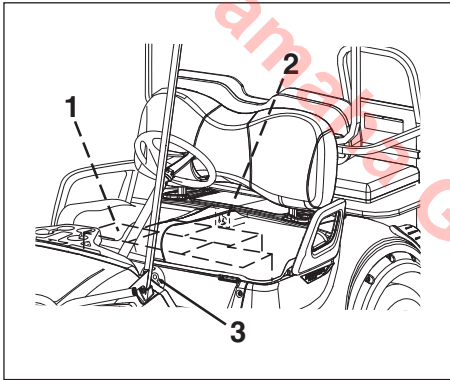
1. Reflector
2. Sun roof
3. Rear seat
4. Rear handrail
5. Rear footrest



1. Front seat
2. Front body
3. Headlights
4. Front tire
5. Front bumper
6. Fuses



1. Rear body
2. Rear tire
3. Rear bumper
4. Taillights
5. Side handrail

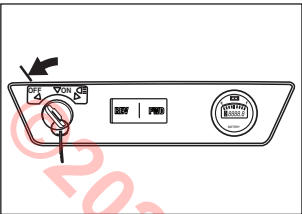


1. Batteries
2. Tow switch
3. DC charger receptacle

# CONTROLS

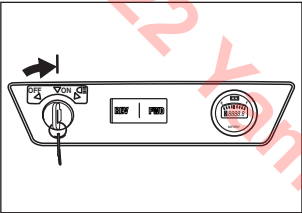
## MAIN SWITCH

The main switch controls the following items:



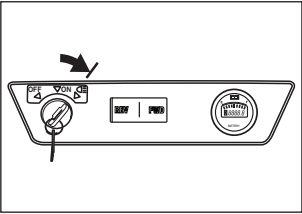
### “OFF”

All electrical circuits are switched off (motor controller unit remains energized). The sport vehicle cannot be operated. The key can be removed only in this position.



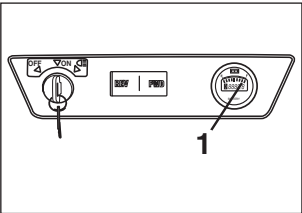
### “ON”

The electrical power circuit is switched on. The sport vehicle can be driven.



### “ON” WITH LIGHTS

The functions for this position are the same as for the ON position; however, this position will activate the headlights and taillights.

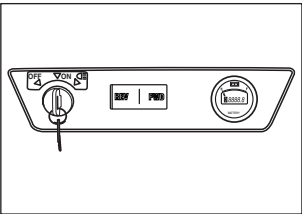


1. Battery gauge

## BATTERY GAUGE

The battery gauge displays how much charge is left in the batteries.

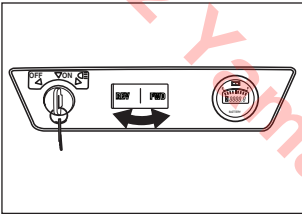
When the batteries are at full charge, all the LEDs will be lit.



As the battery energy decreases, the LEDs will move to the left toward the “E.” When the LED light below the “E” is the only one lit, the batteries must be charged.

Use the table to determine the remaining battery capacity. For example, if 7 of the 9 LED lights are lit, batteries still have approximately 47.4 volts left. When the batteries fall to 43.4 volts or less, 1 LED will blink on and off, meaning the batteries should be charged immediately.

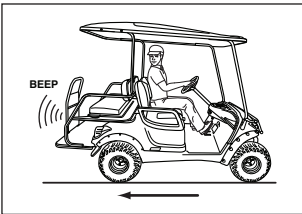
| BAR LEVEL | 9     | 8    | 7    | 6    | 5    | 4    | 3    | 2    | 1    | 1 BLINK |
|-----------|-------|------|------|------|------|------|------|------|------|---------|
| VOLT      | 48.95 | 47.8 | 47.4 | 46.9 | 46.4 | 46.0 | 44.8 | 44.0 | 43.5 | 43.4 >  |



DRIVE SELECT SWITCH

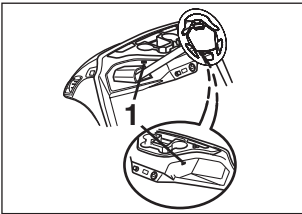
The drive select switch is used to shift the sport vehicle into forward or reverse. After coming to a complete stop, move the switch to the desired position.

| Switch Position | Car Movement |
|-----------------|--------------|
| FWD             | FORWARD      |
| REV             | REVERSE      |



TIP

The reverse alarm will sound when the drive select switch is turned to “REV.”

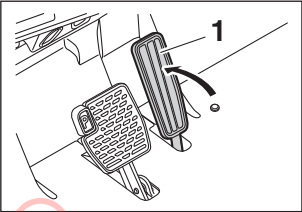


1. USB port

USB PORTS

A USB port is located inside the dash on the driver side and passenger side. These can be used to power or charge USB devices or accessories. The USB is only powered when the key is in the ON position.

# CONTROLS

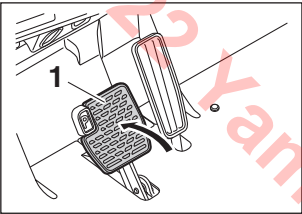


1. Accelerator pedal

## ACCELERATOR PEDAL

The accelerator pedal controls the sport vehicle's speed.

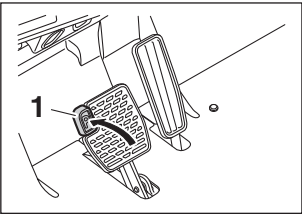
| Action        | Car Speed |
|---------------|-----------|
| Depress pedal | Increase  |
| Release pedal | Decrease  |



1. Brake pedal

## BRAKE PEDAL

Press down on the brake pedal to stop the sport vehicle.



1. Parking brake pedal

## PARKING BRAKE PEDAL

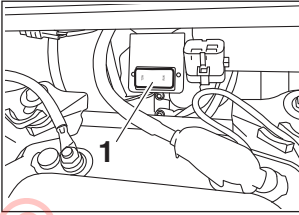
Press down on the parking brake pedal whenever parking the sport vehicle.

### TIP

Release the parking brake by depressing the accelerator pedal.

### WARNING

The parking brake will automatically release when the accelerator pedal is depressed. If the main switch is in the "ON" position, depressing the accelerator may suddenly cause the sport vehicle to move. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.



1. Tow switch

## TOW SWITCH

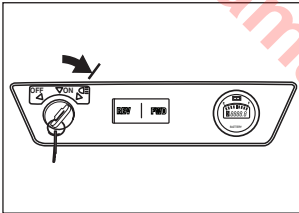
Before operating the vehicle, make sure the tow switch is in the “RUN” position.

### NOTICE

Ensure that the “Drive Select Switch” is in the “FWD” position and then move the “TOW Switch” to “TOW” before towing.

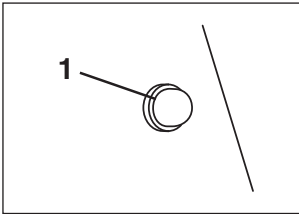
After moving switch from “RUN” to “TOW,” wait 15 seconds minimum before switching again.

Failure to do so may lead to drive system damage while towing.



## HEADLIGHT/TAILLIGHT ON POSITION

Turn the main switch all the way to the right to the second ON position. This will activate the headlights and taillights.



1. Horn switch

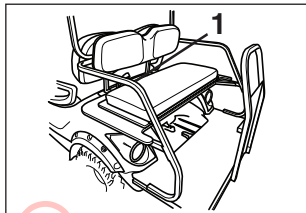
## HORN SWITCH

The horn is located adjacent to the brake pedal, and is activated by depressing with your foot.

### TIP

It is advisable to sound the horn when approaching blind corners.

# CONTROLS



1. Strap

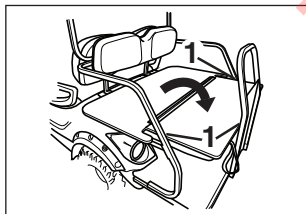
## REAR SEAT

The rear seat is designed to carry a maximum of two passengers. All passengers should remain inside the sport vehicle, remain seated with their feet on the rear footrest and hold onto the handrails while the vehicle is in motion.

The rear seat can be folded down to a cargo bed. Grab the strap and lift up the seat and fold it to the rear of the vehicle.

### WARNING

There are several pinch points for the rear seat when folding it down. Use care when folding the seat down so nothing is in the area of these pinch points.



1. Pinch points

### WARNING

Never allow passengers to ride on the cargo bed when it is folded down. There is no seating and passengers can easily fall off. Death or serious personal injury can result in failure to comply.

Always make sure your cargo is secure when using the cargo bed. Tie the load down with cords or straps where needed.

# PRE-OPERATION CHECKS

Pre-operation checks should be made each time you use your sport vehicle. Get in the habit of performing the following checks in the same way so that they become second nature.

## **WARNING**

To keep vehicle from moving while performing pre-operation checks:

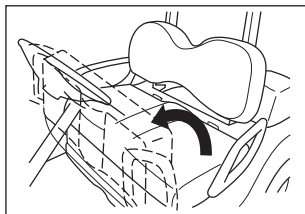
- Remove main switch key.
- Apply parking brake.

Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

## PRE-OPERATION CHECKS

Refer to the Periodic Maintenance and adjustment charts on pages 27 and 29.

5



## SEAT

Lift up the seat for checking and servicing.

# PRE-OPERATION CHECKS

## BATTERIES

### For Flooded Batteries

Check that the batteries are held securely in place to prevent them from being damaged from vibration or jarring. Also check that no battery caps are missing to prevent battery acid from spilling from the batteries. Check the battery terminals for corrosion and tightness.

### For AGM Batteries (Optional)

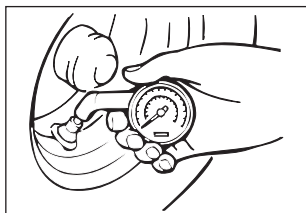
Check that the batteries are held securely in place to prevent them from being damaged from vibration or jarring.

Check the battery terminals for corrosion and tightness.

### **WARNING**

**Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries. KEEP OUT OF REACH OF CHILDREN.**

5



## TIRE CONDITION

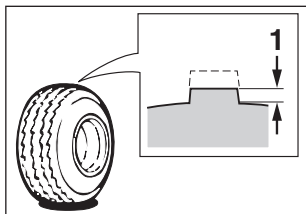
### **Tire Air Pressure**

Check the tire air pressure before operating the sport vehicle.

#### **Tire pressure:**

Front: 84 kPa (0.84 kgf/cm<sup>2</sup>, 12 psi)

Rear: 97 kPa (0.98 kgf/cm<sup>2</sup>, 14 psi)

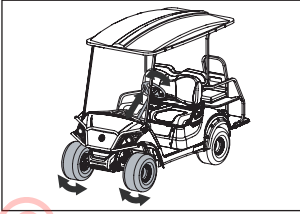


### **Tire Wear Limit**

Check the tire surface for damage, cracks or embedded objects. When tire tread wears down to 3 mm (0.12 in.), replace the tire.

1. Wear limit

# PRE-OPERATION CHECKS

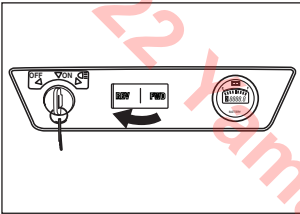


## STEERING SYSTEM

Check the steering system for excessive free play by:

- moving the steering wheel up and down, and back and forth.
- turning the steering wheel slightly to the right and left.

If you feel excessive free play, or hear rattling sounds which may indicate loose steering components, consult a Yamaha dealer.



## REVERSE ALARM

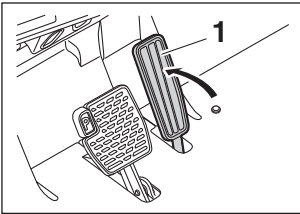
Check the reverse alarm by moving the drive select switch to "REV" for reverse. The alarm should sound.

5

## PEDAL OPERATION

Check the following pedal controls for proper operation. If a pedal does not work properly, consult a Yamaha dealer.

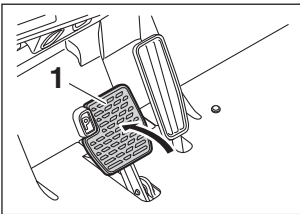
### Accelerator Pedal



1. Accelerator pedal

### WARNING

With the main switch in the "OFF" position, make sure the accelerator pedal operates smoothly.

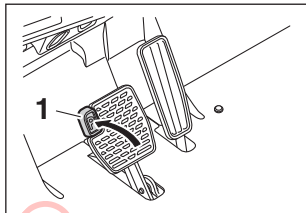


1. Brake pedal

### Brake Pedal

Make sure the brake pedal feels firm when pressed and returns to its original position when released.

# PRE-OPERATION CHECKS



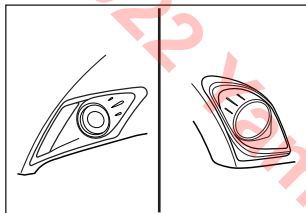
1. Parking brake pedal

## Parking Brake Pedal

Make sure the parking brake pedal locks in place with a positive click, and releases when the accelerator pedal is pressed.

### TIP

Release the parking brake by depressing the accelerator pedal.

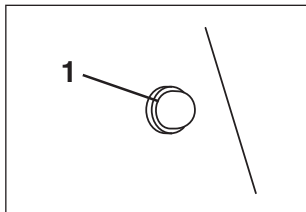


## HEADLIGHTS/TAILLIGHTS

Ensure the headlights and taillights are operational.

### ⚠ WARNING

Never operate the sport vehicle at night or during inclement weather without properly working headlights/taillights.



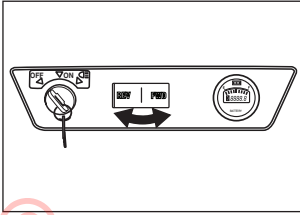
1. Horn switch

## HORN SWITCH

Make sure the horn operates correctly.

## BODY AND CHASSIS

Before each use, visually inspect the sport vehicle body and chassis for damaged and/or missing parts.

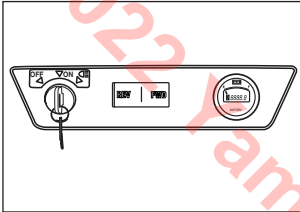


## STARTING

1. With the parking brake applied, turn the drive select switch to “FWD” for forward, or “REV” for reverse.

### NOTICE

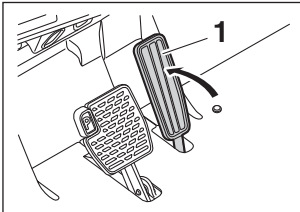
Do not shift from “FWD” (forward) to “REV” (reverse) while the sport vehicle is moving. Transmission damage can result.



2. Turn the main switch to “ON.”

### WARNING

Do not depress the accelerator pedal when turning on the main switch or the sport vehicle may suddenly start moving. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.



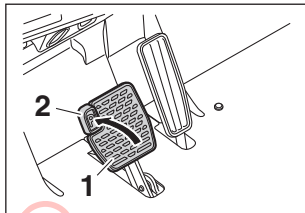
3. Check that your path is clear in the direction you plan to go, and slowly depress the accelerator pedal. The sport vehicle will start to move.

### TIP

The parking brake automatically releases when the accelerator pedal is depressed.

1. Accelerator pedal

# OPERATION



1. Brake pedal
2. Parking brake pedal

## STOPPING

To stop the sport vehicle, gradually press down on the brake pedal.

### NOTICE

**Do not hold the sport vehicle on an incline with the accelerator – use the brake. Transmission damage can result.**

When the sport vehicle has come to a stop, apply the parking brake pedal and turn the main switch to “OFF.”

## LOADING

Cargo can change the stability and handling of a vehicle.

You must use common sense and good judgment when carrying cargo.

Keep the following points in mind:

- Never exceed the weight limits shown. An overloaded vehicle can be unstable.
- Load cargo on the cargo bed as close to the center of the vehicle as possible to avoid tipping the vehicle.

### MAXIMUM LOADING LIMIT

- Vehicle Rated Capacity (passengers/cargo/trailer/access) 340 kg (749.6 lb)
  - G.V.W. (curb & vehicle rate capacity) 886 kg (1,954 lb)
- Cargo should be as far forward on the bed as possible, and distributed evenly from side to side. Be sure cargo is secured so that it cannot move around during operation.
  - Make sure the load does not interfere with controls or your ability to see where you are going.
  - Drive more slowly than you would without a load. The more weight you carry, the slower you should go.
  - Allow more braking distance. A heavier vehicle takes longer to stop.

- Avoid making sharp turns unless at very slow speeds to avoid tipping or rolling the vehicle.
- Avoid hills and rough terrain. Choose terrain carefully. Added weight affects the stability and handling of the vehicle.

---

## **WARNING**

---

### **Uncontrolled Movement Hazard**

- **Never exceed the stated load capacity for this vehicle.**
  - **Distribute the load evenly.**
  - **Secure cargo in cargo bed.**
  - **Reduce speed and allow greater distances for braking.**
- 

---

## **WARNING**

---

### **Fall and Thrown Object Hazard**

- **Do not carry passengers in the cargo bed.**
- 

---

## **WARNING**

---

### **Fire or Explosion Hazard**

- **Do not fill fuel containers on the cargo bed.**
  - **Set fuel container on the ground.**
  - **Keep fuel nozzle in contact with can inlet while filling.**
  - **Tighten cap before setting fuel container on cargo bed.**
-

# MAINTENANCE AND ADJUSTMENT

## PERIODIC MAINTENANCE AND ADJUSTMENT CHARTS

Regular maintenance is required for the best performance and safe operation of your sport vehicle.

### WARNING

Be sure to turn off the main switch and apply the parking brake when you perform maintenance, unless otherwise specified. If the owner is not familiar with servicing the machine, death or serious personal injury can result. When in doubt the work should be done by a Yamaha dealer or other qualified mechanic.

### NOTICE

Yamaha Golf-Car Company does not approve the use of high-pressure washers to clean the products they manufacture. Doing so may damage the finish on the body or result in doing other damage not covered by warranty.

CS - CHECK CA - CHECK AND ADJUST R - REPLACE S - SERVICE CL - CLEAN AND LUBRICATE L - LUBRICATE

|   | Remarks                                                                                | Daily<br>Pre-<br>Operation | 40 rounds<br>20 hours<br>100 miles<br>160 kms<br>(Every<br>Month) | 250 rounds<br>125 hrs<br>600 mls<br>1000 kms<br>(Every 6<br>months) | 500 rounds<br>250 hrs<br>1200 mls<br>2000 kms<br>(Every<br>Year) | 1000 rounds<br>500 hrs<br>2500 mls<br>4000 kms<br>(Every 2<br>years) | 2000 rounds<br>1000 hrs<br>5000 mls<br>8000 kms<br>(Every 4<br>years) | Page      |
|---|----------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|-----------|
| 7 | PRE-OP                                                                                 |                            |                                                                   |                                                                     |                                                                  |                                                                      |                                                                       |           |
|   | Charge                                                                                 | S                          | S                                                                 | S                                                                   | S                                                                | S                                                                    | S                                                                     | 12,<br>33 |
|   | Clean battery<br>tops, check for<br>tightness of hold-<br>down screws and<br>terminals | S                          | S                                                                 | S                                                                   | S                                                                | S                                                                    | S                                                                     | 21,<br>30 |
|   | Check brake pedal<br>freeplay and adjust<br>if necessary                               | CS                         | CA                                                                | CA                                                                  | CA                                                               | CA                                                                   | CA                                                                    | 22,<br>52 |
|   | Check steering<br>operation                                                            | CS                         | CS                                                                | CS                                                                  | CS                                                               | CS                                                                   | CS                                                                    | 22        |
|   | Check tire pres-<br>sure, tread depth,<br>tire surface for<br>damage                   | CS                         | CA                                                                | CA                                                                  | CA                                                               | CA                                                                   | CA                                                                    | 21        |
|   | Check body and<br>chassis for dam-<br>age                                              | CS                         | CS                                                                | CS                                                                  | CS                                                               | CS                                                                   | CS                                                                    | 23        |
|   | Check tightness<br>of all bolts, nuts,<br>screws and rivets                            | CS                         | CS                                                                | CS                                                                  | CS                                                               | CS                                                                   | CS                                                                    | *         |

\* Items without a page number reference should be serviced by a Yamaha dealer or other qualified mechanic. This manual does not contain these procedures. They are contained in the Service Manual.

\*\* Flooded Batteries only

# MAINTENANCE AND ADJUSTMENT

CS - CHECK CA - CHECK AND ADJUST R - REPLACE S - SERVICE CL - CLEAN AND LUBRICATE L - LUBRICATE

|                       | Remarks                                                                                                                                           | Daily<br>Pre-<br>Operation | 40 rounds<br>20 hours<br>100 miles<br>160 kms<br>(Every Month) | 250 rounds<br>125 hrs<br>600 mls<br>1000 kms<br>(Every 6 months) | 500 rounds<br>250 hrs<br>1200 mls<br>2000 kms<br>(Every Year) | 1000 rounds<br>500 hrs<br>2500 mls<br>4000 kms<br>(Every 2 years) | 2000 rounds<br>1000 hrs<br>5000 mls<br>8000 kms<br>(Every 4 years) | Page |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|------|
| <b>PRE-OP</b>         | Check reverse alarm operation                                                                                                                     | CS                         | CS                                                             | CS                                                               | CS                                                            | CS                                                                | CS                                                                 | 22   |
| <b>EVERY MONTH</b>    | Check electrolyte level **                                                                                                                        |                            | CS                                                             | CS                                                               | CS                                                            | CS                                                                | CS                                                                 | 30   |
|                       | Check for loose or broken connections                                                                                                             |                            | CS                                                             | CS                                                               | CS                                                            | CS                                                                | CS                                                                 | *    |
|                       | Clean/Lube pedal control area                                                                                                                     |                            | CL                                                             | CL                                                               | CL                                                            | CL                                                                | CL                                                                 | —    |
| <b>EVERY 6 MONTHS</b> | Check all wire insulation for cracks and/or worn spots                                                                                            |                            |                                                                | CS                                                               | CS                                                            | CS                                                                | CS                                                                 | *    |
|                       | <ul style="list-style-type: none"> <li>Check brake cable operation</li> <li>Inspect for abrasions and damage, and replace if necessary</li> </ul> |                            |                                                                | CS R                                                             | CS R                                                          | CS R                                                              | CS R                                                               | 52   |
|                       | Check shock absorbers for oil leaks and damaged springs                                                                                           |                            |                                                                | CS                                                               | CS                                                            | CS                                                                | CS                                                                 | *    |
| <b>EVERY YEAR</b>     | Perform a discharge test                                                                                                                          |                            |                                                                |                                                                  | S                                                             | S                                                                 | S                                                                  | *    |
|                       | Apply Terminal protectant                                                                                                                         |                            |                                                                |                                                                  | S                                                             | S                                                                 | S                                                                  | —    |
|                       | Check rear axle bearing play for roughness or freeplay                                                                                            |                            |                                                                |                                                                  | CS                                                            | CS                                                                | CS                                                                 | *    |
|                       | Check steering knuckle bushing freeplay / Adjust wheel alignment                                                                                  |                            |                                                                |                                                                  | CA                                                            | CA                                                                | CA                                                                 | *    |
|                       | Check wheel nut tightness, front wheel bearing play                                                                                               |                            |                                                                |                                                                  | CS                                                            | CS                                                                | CS                                                                 | *    |

\* Items without a page number reference should be serviced by a Yamaha dealer or other qualified mechanic. This manual does not contain these procedures. They are contained in the Service Manual.

\*\* Flooded Batteries only

# MAINTENANCE AND ADJUSTMENT

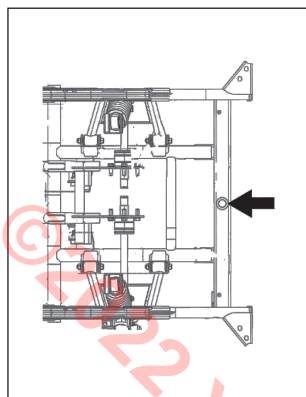
CS - CHECK CA - CHECK AND ADJUST R - REPLACE S - SERVICE CL - CLEAN AND LUBRICATE L - LUBRICATE

|                  | Remarks                                                           | Daily<br>Pre-<br>Operation | 40 rounds<br>20 hours<br>100 miles<br>160 kms<br>(Every<br>Month) | 250 rounds<br>125 hrs<br>600 mls<br>1000 kms<br>(Every 6<br>months) | 500 rounds<br>250 hrs<br>1200 mls<br>2000 kms<br>(Every<br>Year) | 1000 rounds<br>500 hrs<br>2500 mls<br>4000 kms<br>(Every 2<br>years) | 2000 rounds<br>1000 hrs<br>5000 mls<br>8000 kms<br>(Every 4<br>years) | Page |
|------------------|-------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------|------|
| EVERY<br>YEAR    | Check transmis-<br>sion oil level and<br>inspect for leakage      |                            |                                                                   |                                                                     | CS                                                               | CS                                                                   | CS                                                                    | 49   |
|                  | Adjust parking<br>brake release                                   |                            |                                                                   |                                                                     | CA                                                               | CA                                                                   | CA                                                                    | 54   |
| EVERY 4<br>YEARS | Replace transmis-<br>sion oil                                     |                            |                                                                   |                                                                     |                                                                  |                                                                      | R                                                                     | *    |
|                  | Inspect brake<br>shoes and adjust<br>or replace if nec-<br>essary |                            |                                                                   |                                                                     |                                                                  |                                                                      | CA                                                                    | *    |

\* Items without a page number reference should be serviced by a Yamaha dealer or other qualified mechanic. This manual does not contain these procedures. They are contained in the Service Manual.

\*\* Flooded Batteries only

# MAINTENANCE AND ADJUSTMENT



## REAR LIFTING POINT

If the rear of the car needs to be lifted for a maintenance procedure, make sure it is lifted at the correct rear lifting point (see arrow).

## BATTERY CARE

### For Flooded Batteries

#### **⚠ WARNING**

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote:

**EXTERNAL:** Flush with water.

**INTERNAL:** Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.

**EYES:** Flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases.

Keep sparks, flame, cigarettes, etc., away.

Ventilate when charging or using in an enclosed space. Always shield eyes when working near batteries.

#### **KEEP OUT OF REACH OF CHILDREN.**

Six 8-volt deep cycle batteries provide power for your vehicle and must be properly maintained and recharged for maximum performance and service life.

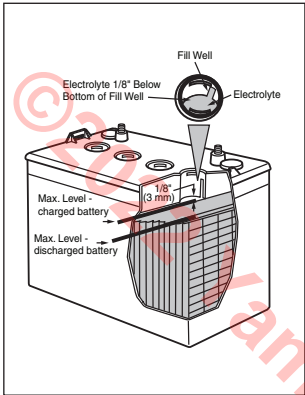
To maintain your batteries:

1. Clean the tops of the batteries with a solution of baking soda and water, as necessary, to remove corrosion.

# MAINTENANCE AND ADJUSTMENT

## NOTICE

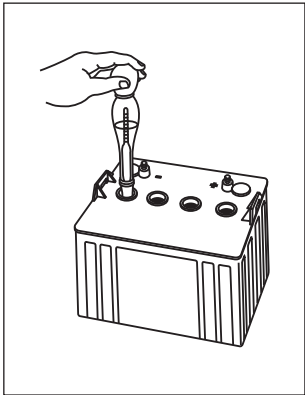
Do not allow cleaning solution to enter battery cells. Serious battery damage can result.



2. Check the fluid level before and after charging.
- **Before charging:** Only add distilled water if fluid is below the top of the plates, and then add just enough to cover plates.
  - **After charging:** Open the vent caps and look inside the fill wells. Add distilled water until the electrolyte level is 3 mm (1/8") below the bottom of the fill well. A piece of rubber can be used safely as a dipstick to help determine this level. Clean, replace and tighten all vent caps.

## NOTICE

Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.



3. Using a hydrometer, check the specific gravity of the battery fluid in each cell against the readings on the chart below. Consult a Yamaha dealer if any low readings are found, or if readings vary more than one point between cells.

| Temperature |     | Satisfactory Uncorrected Hydrometer Reading |
|-------------|-----|---------------------------------------------|
| °C          | °F  |                                             |
| 48.9        | 120 | 1.244                                       |
| 43.3        | 110 | 1.248                                       |
| 37.8        | 100 | 1.252                                       |
| 32.2        | 90  | 1.256                                       |
| 26.7        | 80  | 1.260                                       |
| 21.1        | 70  | 1.264                                       |
| 15.6        | 60  | 1.268                                       |
| 10.0        | 50  | 1.272                                       |
| 4.4         | 40  | 1.276                                       |
| -1.1        | 30  | 1.280                                       |

# MAINTENANCE AND ADJUSTMENT

---

## For AGM Batteries (Optional)

### **WARNING**

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes, or clothing.

Antidote:

**EXTERNAL:** Flush with water.

**INTERNAL:** Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.

**EYES:** Flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases.

Keep sparks, flame, cigarettes, etc., away.

Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

**KEEP OUT OF REACH OF CHILDREN.**

Six 8-volt deep cycle AGM batteries provide power for your electric vehicle and must be properly recharged for maximum performance and service life.

# MAINTENANCE AND ADJUSTMENT

## BATTERY CHARGING

### WARNING

Read and understand the owner's manual provided with your vehicle's battery charger before charging batteries. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

### WARNING

Explosive hydrogen gas is produced while batteries are being charged. Only charge batteries in well ventilated areas (a minimum of five air changes per hour is recommended). Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

To charge the batteries in your vehicle, follow the instructions contained in your battery charger's owner's manual. The following is a summary of the charging steps.

### NOTICE

Do not attempt to recharge your vehicle's batteries without thoroughly reading and understanding the owner's manual provided with your charger.

1. Turn main switch key to "OFF" position.

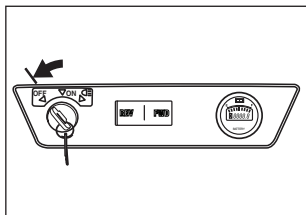
### NOTICE

Always put the tow switch in the TOW position before charging battery or damage to the electrical system may result.

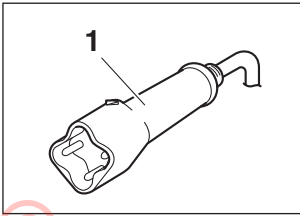
2. Lift up the seat and move the tow switch to the TOW position.

### NOTICE

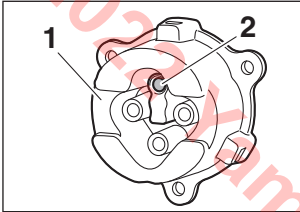
Use only battery chargers that are rated for use with 48-volt Yamaha vehicles. Serious battery damage can result. Thoroughly read and understand the user manual supplied with your 48-volt charger.



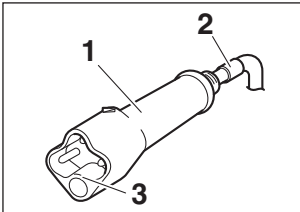
# MAINTENANCE AND ADJUSTMENT



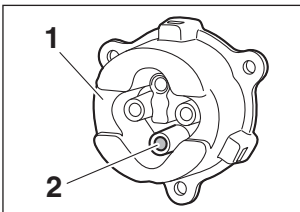
1. DC output plug for Flooded batteries



1. Receptacle for Flooded batteries  
2. Dummy pin



1. DC output plug for AGM batteries (Optional)  
2. Identification wrap (Red)  
3. Rib



1. Receptacle for AGM batteries (Optional)  
2. Dummy pin

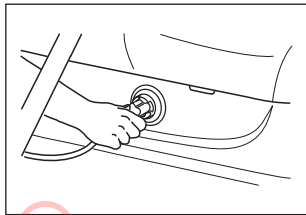
3. Check the DC output code and plug for damage.

## TIP

The location of the dummy pin is different between the flood battery and the AGM battery (Optional).

# MAINTENANCE AND ADJUSTMENT

---



4. With the charger properly connected and grounded (see charger's owner's manual), insert the DC output into the DC charger receptacle.

## **! WARNING**

**Do not disconnect the DC output cord from the DC charger receptacle when the charger is on or an arc could occur that may cause an explosion.**

## **NOTICE**

**Do not insert the DC plug into receptacle of the wrong battery type. DC plug or receptacle damage can result. See the identification procedure on page 33.**

5. The charger will turn off automatically when the batteries reach full charge.
6. After the charger has turned off, disconnect the DC output plug from the DC charger receptacle by grasping the plug body and pulling the plug straight out of the receptacle.

# MAINTENANCE AND ADJUSTMENT

## BATTERY INSTALLATION

### WARNING

When working with batteries, do not put wrenches or other metal objects across the battery terminals. An arc can occur causing an explosion of the battery.

### For Flooded Batteries

1. Install the battery hold-down plates and torque to 7-9 N·m (0.7-0.9 kgf·m, 5.2-6.6 lb·ft) as shown.
2. Connect the wire leads and torque to 9-10 N·m (0.9-1.0 kgf·m, 6.6-7.4 lb·ft) as shown.

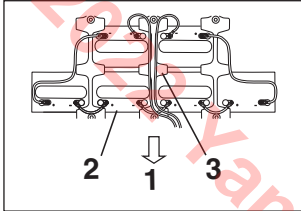
### WARNING

When installing batteries:

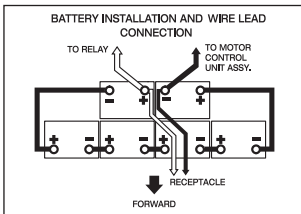
- Carefully place battery cables and hold-downs making sure that cables do not lay across vent caps.
- Always remove the negative (-) cable to the motor controller first and install it last. A spark can occur causing an explosion or fire at the battery.

### NOTICE

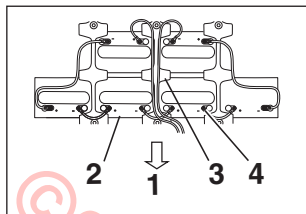
Do not over-tighten the battery holddown nuts. Excessive force will damage the battery casing.



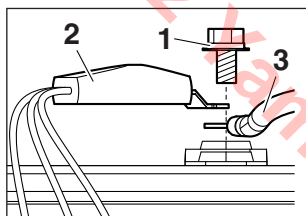
1. Forward
2. Battery
3. Battery hold-down plate



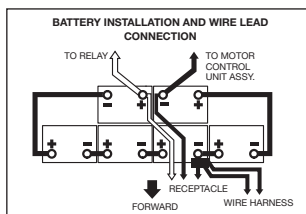
# MAINTENANCE AND ADJUSTMENT



1. Forward
2. Battery
3. Battery hold-down plate
4. Temperature sensor



1. Bolt
2. Temperature sensor
3. Battery cable



## For AGM Batteries (Optional)

1. Install the battery hold-down plates and torque to 7-9 N·m (0.7-0.9 kgf·m, 5.2-6.6 lb·ft) as shown.
2. Install the temperature sensor between the wire terminal and flat washer in correct place and then tighten the terminal connecting bolts to 9-10 N·m (0.9-1.0 kgf·m, 6.6-7.4 lb·ft) as shown.

## ! WARNING

### When installing batteries:

- Carefully place battery cables and hold-downs making sure that cables do not lay across vent caps.
- Always remove the negative (-) cable to the motor controller first, and install it last. A spark can occur causing an explosion or fire at the battery.

## NOTICE

**Do not over-tighten the battery hold-down nuts. Excessive force will damage the battery casing.**

# MAINTENANCE AND ADJUSTMENT

## FUSE REPLACEMENT

### WARNING

Be sure to use the specified fuse. Using a wrong fuse can cause electrical system damage and create a fire hazard. Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

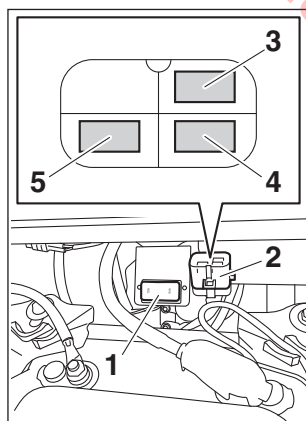
### NOTICE

When replacing a fuse, be sure the main switch is turned off to prevent accidental short-circuiting and electrical system damage. Put tow switch in the tow position.

The fuse holder is located under the seat. (next to the tow switch)

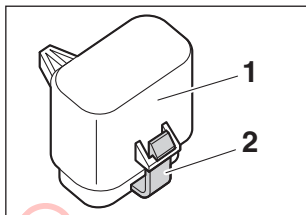
To access the fuse holder

1. Lift up the seat (see page 20).
2. Locate the fuse holder next to the tow switch.



1. Tow switch
2. Fuse holder
3. USB Mini fuse (5.0A 32V)
4. Main Mini fuse (10.0A 58V)
5. MCU Mini fuse (3.0A 58V)

# MAINTENANCE AND ADJUSTMENT



1. Fuse holder cover
2. Locking tab

3. Depress the locking tab of the fuse holder, and then remove the fuse holder cover.
4. Pull the fuse out and inspect it. Replace the fuse if necessary.
5. Install the fuse holder cover.
6. Close the seat.

## BATTERY CHARGER

### Prepare for Emergencies

Be prepared for possible injury or fire.

Keep the following items handy:

- First aid kit
- Fire extinguisher
- Emergency phone numbers

Read the text located on the case of the charger before operating or using the charger.

### Features

**Switch-Mode Design:** High efficiency operation with smooth, ripple-free DC output.

**10-LED Display:** Displays state of charge and charge error conditions.

**Charge Protection:** Protects from improper connection, overload and excessive temperatures.

Programmed safety features include charge time monitoring and over temperature protection.

**Charge Algorithm:** Designed for maximum battery life of Trojan 48V batteries.

**Pre-Test:** Performs several diagnostic tests before charging begins.

**Multi-Charge Steps:** Ensures a consistent and repeatable charge.

**Step 1: Pre-test:** Tests several conditions before charging begins. If a problem is detected, charging is terminated.

**Step 2: Constant Current Step:** Battery is charged with full rated output current, restoring up to 80% of charge.

# MAINTENANCE AND ADJUSTMENT

---

**Step 3: Constant Voltage Step:** Regulated voltage “equalizes” individual battery cells, resulting in full charge delivered to the battery.

**Step 4: Topping Off Step:** Battery pack is brought slowly to full charge without excess gassing.

**Step 5: Storage:** Every 14th day and if voltage becomes less than 48V, charger restarts cycle to refresh batteries in storage.

**Automatic Battery Equalization (Boosting):** Automatically boosts battery pack when individual cell-voltages are not balanced and restores pack capacity.

## INSTALLATION

The AC line connected to the charger must be capable of supplying 12 Amperes to the charger. **AVOID** connecting a charger and another device to a single 15A/20A circuit or the circuit may become overloaded.

Also, maximum Ampere varies depending on AC voltage. Please refer to “AC Input” in General Specifications.

### **WARNING**

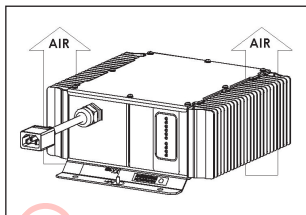
**RISK OF FIRE** - Use this charger only on circuits with a 15-amp or higher branch circuit protection (circuit breaker or fuse) in accordance with the national electrical code, ANSI/NFPA 70 and all applicable local codes and ordinances.

When using an extension cord, use only a grounded, 3-wire, 12-AWG cord no longer than 15 m (50 ft.). The use of an improper extension cord could result in a risk of a fire or electric shock.

### **WARNING**

The output of chargers with greater than 48 volts may pose an energy and/or shock hazard under normal use.

# MAINTENANCE AND ADJUSTMENT



## MOUNTING

### **WARNING**

**This charger is not designed for on-board use. Improper mounting or installation could result in a risk of fire or damage to the vehicle.**

Mount the charger on a shelf or on the wall with adequate ventilation.

Ideally it will be mounted horizontally with airflow from below. If it will be mounted vertically, it is recommended that the AC-input cord be at the lower end of the charger.

Keep the charger free of oil, dirt, mud or dust to keep the cooling fins operating as efficiently as possible.

Mount the charger by the mounting plate using appropriate fasteners.

### **TIP**

The charger's AC plug must be located at least 46 cm (18 in.) above the ground and the display visible to the user.

### **WARNING**

**Chargers can ignite flammable materials and vapors. Do not use near fuels, grain dust, solvents or other flammables.**

# MAINTENANCE AND ADJUSTMENT

---

## GROUNDING

The battery charger must be grounded to reduce the risk of electric shock. The charger is equipped with a 3-prong AC cord set. The AC cord set must be connected to an appropriate receptacle that is properly installed and grounded in accordance with the National Electrical Code and all local codes and ordinances.

### WARNING

**Improper connection of the equipment-grounding conductor can result in a risk of an electric shock.**

The conductor with insulation that has an outer surface that is green, with or without yellow stripe(s), is the equipment-grounding conductor. If repair or replacement of the charger's AC cord set is necessary, do not connect the equipment-grounding connector to a live terminal.

## CHARGING

### WARNING

To reduce the risk of an electric shock, connect only to a properly grounded, single-phase (3-wire) outlet. Also, refer to grounding instructions.

### WARNING

**Risk of electric shock! Do not touch any uninsulated parts of the charger output plug, DC charger receptacle or battery terminals.**

### WARNING

**Surfaces may be hot. To avoid risk of burns, do not touch.**

### NOTICE

**Charge only 48-volt battery systems manufactured by Trojan Battery Company. Damage to the charger and batteries may result if this charger is used on the wrong battery type.**

# MAINTENANCE AND ADJUSTMENT

---

## WARNING

Visually and manually inspect to verify that the DC output cord, plug and battery charging receptacle are in good working condition before each and every use. Do not use the charger under any of the following conditions:

- The DC charging receptacle does not grip the DC cord set plug tightly, is loose or does not make a good electrical connection.
- The DC cord set plug or charging receptacle feels hotter than normal.
- The DC cord set plug or charging receptacle contacts are bent, corroded, or are dark or bluish in appearance.
- The DC cord set plug, cords, receptacle or equipment-charging wiring are cut, worn, broken or have any exposed conductors.
- The DC cord plug, cords, charger or receptacles are damaged or distressed in any way.

Using the charger with any of the above symptoms could result in a fire, property damage or personal injury.

## WARNING

Do not disconnect the DC cord set plug from the DC charger receptacle when the charger is on. If the charger must be stopped, first disconnect the AC power supply cord from its AC outlet, and then disconnect the charger DC cord set plug from the DC charger receptacle.

## WARNING

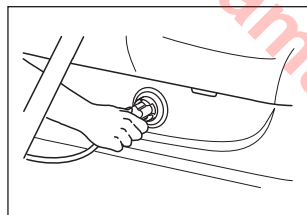
Whenever removing AC or DC cord set plugs from receptacles, pull from the plug body and not from their respective cords.

# MAINTENANCE AND ADJUSTMENT

The instructions printed on the charger (shown below) are for daily reference. The charger is factory preset for use with Trojan 48-volt golf car batteries.

## OPERATING INSTRUCTIONS

1. PLUG AC CORD INTO A GROUNDED RECEPTACLE
2. PLUG DC CORD INTO DC CHARGER RECEPTACLE
3. CHARGE CYCLE WILL BEGIN AFTER A FEW SECONDS AND AMMETER WILL TURN ON
4. CHARGER SHUTS OFF AUTOMATICALLY WHEN BATTERIES ARE CHARGED

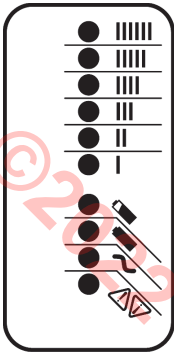


Connect charger's AC cord set to AC power. Then, connect the DC cord set plug to the vehicle charging receptacle by grasping the plug handle and pushing the plug straight into the DC charger receptacle. The charger will start automatically.

Upon connection to AC power source, the lower four LEDs come on as a Power-On Self-Test, then the AC power LED turns on. Upon connection to battery pack, output indicators turn on to indicate charging is active.

# MAINTENANCE AND ADJUSTMENT

Under normal charge circumstances, the LEDs operate as follows:



|                               |                  |                                                                                            |
|-------------------------------|------------------|--------------------------------------------------------------------------------------------|
| <b>Ammeter</b><br>(Amber)     | <b>On:</b>       | Displays approximate scale of current output during Step 2.                                |
|                               | <b>Blinking:</b> | High internal charger temperature.<br>Current output reduced.                              |
| <b>80% Charge</b><br>(Amber)  | <b>On:</b>       | 80% charged, Step 2 complete. Begin Step 3.                                                |
|                               | <b>Blinking:</b> | With no battery connected, indicates algorithm # selected by number of flashes at startup. |
| <b>100% Charge</b><br>(Green) | <b>On:</b>       | Charging complete.<br>Charger in Storage Mode.                                             |
|                               | <b>Blinking:</b> | Step 3 complete.<br>Begin Step 4.                                                          |
| <b>AC On</b><br>(Amber)       | <b>On:</b>       | AC power good.                                                                             |
| <b>Fault</b><br>(Red)         | <b>Blinking:</b> | Charger error.<br>Refer to <b>Troubleshooting</b> on next page.                            |

To reset charger after 100% charge (Green LED), disconnect the DC plug from battery for more than 30 seconds. Then, reconnect DC plug.

# MAINTENANCE AND ADJUSTMENT

---

## TROUBLESHOOTING

### 1. LED Error Codes (For Battery Condition)

#### **WARNING**

---

Incorrect reassembly may result in a risk of electric shock or fire. The following procedures are intended only to determine if a malfunction may exist in the charger.

---

#### **WARNING**

---

To reduce the risk of electric shock, always disconnect the charger's AC cord set plug from AC power and its DC cord set plug from batteries before attempting any maintenance or cleaning.

---

#### **WARNING**

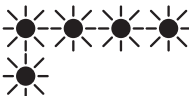
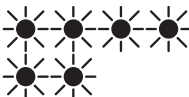
---

Do not operate the charger if it is malfunctioning. Personal injury or property damage could result.

---

# MAINTENANCE AND ADJUSTMENT

If a fault occurs, count the number of red flashes between pauses and refer to the table below:

| Red Flashes                                                                         | Cause                                                                      | Solution                                                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|    | Battery High Voltage                                                       | Check battery size and condition and reset charger (interrupt DC connection for 15 seconds).            |
|    | Battery Low Voltage                                                        | Check battery size and condition and reset charger (interrupt DC connection for 15 seconds).            |
|    | Charge Timeout caused by battery pack not reaching required voltage.       | Check connections.                                                                                      |
|                                                                                     | Charger output was reduced due to high temperatures.                       | Operate charger at a lower ambient temperature.                                                         |
|    | Check Battery: Battery could not be trickle charged up to minimum voltage. | Check for shorted or damaged cells.                                                                     |
|   | Over-Temperature: Charger shut down due to high internal temperature.      | Ensure sufficient cooling air flow and reset charger (interrupt DC connection for 15 seconds).          |
|  | Charger Internal Fault                                                     | Reset charger (interrupt AC power for 15 seconds). Return to qualified service depot if fault persists. |

 **WARNING**

Have qualified service technician inspect if problems persist.

# MAINTENANCE AND ADJUSTMENT

## 2. Hardware System Faults

| Problem Description                                                                                                         | Cause                                                                                                                        | Remedy                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Charger does not start. No LEDs illuminate or blink when AC cord is connected.                                              | No AC power to charger.                                                                                                      | Ensure correct voltage at AC outlet. Check AC cord connections. Replace AC cord if damaged.                              |
| Charger does not start charging when DC cord set is plugged into charger receptacle and the Amber AC On LED is illuminated. | Incorrect wiring or disconnection from DC cord, charger receptacle and batteries.<br><br>Battery voltage less than 20 Volts. | Ensure polarity for wiring is correct from DC cord, charger receptacle and batteries.<br><br>Check battery pack voltage. |
| Charger runs longer than 20 hours.                                                                                          | Charger may be in “boosting” stage.                                                                                          | Confirm Green 100% LED is blinking. (This indicates boosting.)                                                           |

### WARNING

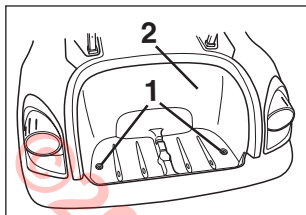
**Have qualified service technician inspect if problems persist.**

# MAINTENANCE AND ADJUSTMENT

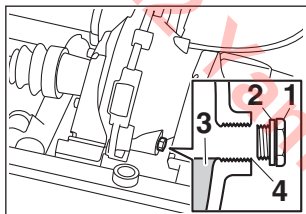
## TRANSMISSION OIL

**To check the transmission oil level:**

1. Place the sport vehicle on a flat, level surface.
2. Remove two bolts and remove the rear floor cover.
3. Place an oil pan under the transmission case.



1. Bolt
2. Rear floor cover



1. Transmission oil filler bolt
2. O-ring
3. Transmission oil
4. Correct oil level

4. Clean the area around the transmission oil filler bolt, and then remove the bolt.

### NOTICE

**Do not allow foreign material to enter the transmission. Serious damage can result.**

5. The oil level should be up to the brim of the transmission oil filler hole.
6. If the level is low, add sufficient oil of the recommended type to raise it to the specified level.

**Recommended oil brand:**



**Available viscosity index:**

SAE 80W-90 or SAE 90

**Transmission oil change quantity:**

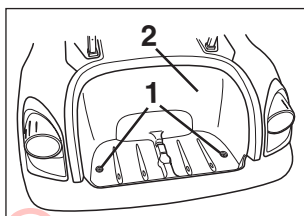
475 cc (475 mL, 0.50 US qt)

7. Allow excess transmission oil to flow out of the hole until it stops.
8. Check the O-rings for damage, and replace them if necessary.
9. Install the transmission filler bolt.

**Transmission oil filler bolt tightening torque:**

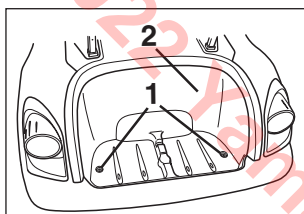
4.3 N·m (0.43 kgf·m, 3.1 lb·ft)

# MAINTENANCE AND ADJUSTMENT



1. Bolt
2. Rear floor cover

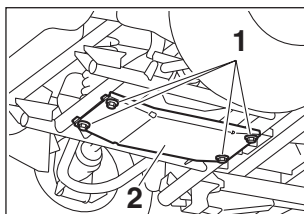
10. Install the rear floor cover and secure with two bolts.



1. Bolt
2. Rear floor cover

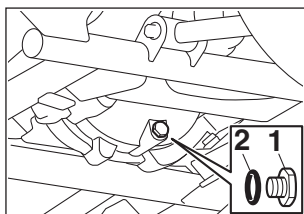
## To replace the transmission oil:

1. Place the sport vehicle on a flat, level surface.
2. Remove two bolts and remove the rear floor cover.



1. Bolt
2. Transmission cover

3. Remove the four bolts and remove the transmission cover.
4. Place an oil pan under the transmission case to collect the used oil.



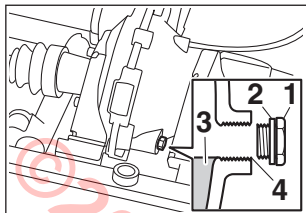
1. Transmission oil drain bolt
2. O-ring

5. Clean the area around the transmission oil filler bolt and transmission oil drain bolt. Remove the transmission oil filler bolt, the transmission oil drain bolt, and their O-rings to drain the oil.

## NOTICE

**Do not allow foreign material to enter transmission. Serious transmission damage can result.**

# MAINTENANCE AND ADJUSTMENT



1. Transmission oil filler bolt
2. O-ring
3. Transmission oil
4. Correct oil level

6. Check the O-rings for damage, and replace them if necessary.
7. Install the transmission oil drain bolt and its O-ring, and then tighten the bolt to the specified torque.

## Transmission oil drain bolt tightening torque:

4.3 N·m (0.43 kgf·m, 3.1 lb·ft)

8. Refill the transmission case with the recommended oil.  
Allow excess transmission oil to flow out of the hole until it stops.

## Recommended oil brand:



## Available viscosity index:

SAE 80W-90 or SAE 90

## Transmission oil change quantity:

475 cc (475 mL, 0.50 US qt)

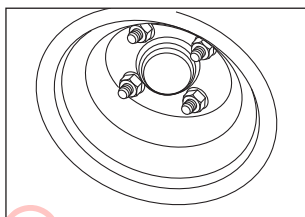
9. Install the transmission oil filler bolt and its O-ring, and then tighten the bolt to the specified torque.

## Transmission oil filler bolt tightening torque:

4.3 N·m (0.43 kgf·m, 3.1 lb·ft)

10. Install the transmission cover and secure with four bolts, and then install the rear floor cover and secure with two bolts.

# MAINTENANCE AND ADJUSTMENT



## WHEEL REPLACEMENT

### WARNING

Before performing wheel or brake maintenance, verify that the main switch is in the “OFF” position. Accidental starting of the vehicle could cause the vehicle to move, causing death or serious personal injury.

To remove and install a wheel on your sport vehicle:

1. With the wheels blocked to prevent the sport vehicle from moving, loosen the wheel nuts.
2. Elevate the sport vehicle with a suitable jack and remove the wheel nuts and the wheel.
3. Reverse the removal steps when installing the wheel.

### Wheel nut tightening torque:

100 N·m (10 kgf·m, 74 lb·ft)

## BRAKE ADJUSTMENT

The brakes on your sport vehicle are self-adjusting. Before you operate the sport vehicle, press down on the brake pedal several times to make sure the brakes are functioning properly.

### WARNING

Consult your Yamaha dealer before using your sport vehicle if you suspect brake problems. Brake failure could result in a serious accident.

Death or serious personal injury can result from failing to comply with the safety instructions in this manual.

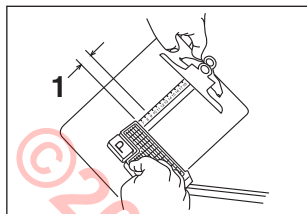
# MAINTENANCE AND ADJUSTMENT

## BRAKE PEDAL FREE PLAY ADJUSTMENT

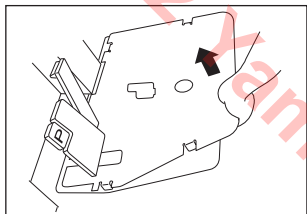
Check the brake pedal free play by pressing against the pedal with two fingers (using light force) and measuring the distance the pedal travels before resistance is felt.

### Brake pedal free play:

50-55 mm (1.97-2.17 in.)

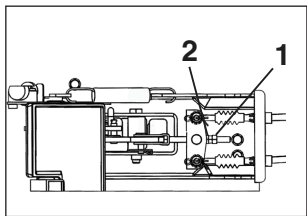


1. Brake pedal free play



To adjust the brake pedal free play:

1. Remove the floor mat and service lid from the floor of the sport vehicle.



1. Locknut
2. Adjusting nut

2. If the free play distance needs adjusting, loosen the lock nut and turn the adjusting nut in or out until the free play specification is met. Then tighten the lock nut in place.

### WARNING

**Do not over-tighten the brake cables. Over-tightening will increase brake wear and affect overall performance of sport vehicle.**

**Premature brake wear can result.**

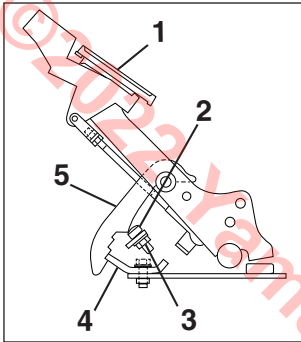
**Death or serious personal injury can result from failing to comply with the warning labels in this manual.**

# MAINTENANCE AND ADJUSTMENT

## PARKING BRAKE RELEASE ADJUSTMENT

### NOTICE

Before performing parking brake release adjustment, adjust brake pedal free play.



1. Parking brake pedal
2. Bolt
3. Locknut
4. Brake nail
5. Sector

1. Apply pressure to the parking brake pedal until the brake nail catches the first latch position on the sector.
2. Loosen the locknut and turn the bolt counter-clockwise until it contacts the sector.
3. Turn the bolt clockwise 1/3 of a turn (120 degrees), then tighten locknut.

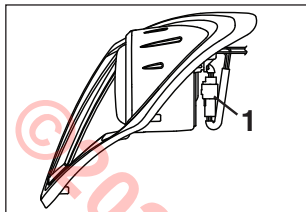
# MAINTENANCE AND ADJUSTMENT

## REPLACING A HEADLIGHT UNIT

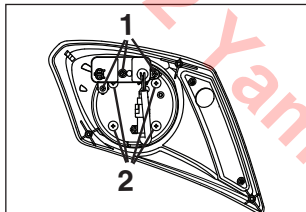
This model is equipped with LED-type headlights.

If a headlight does not come on, replace it as follows:

1. Disconnect the wire connector from the headlight assembly.

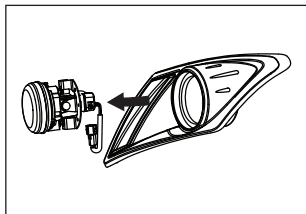


1. Wire connector



1. Screws (three)
2. Screws (four)

2. Remove the three screws and remove the light control unit.
3. Remove the four screws to remove the headlight assembly from the holder.
4. Remove the headlight assembly from the holder.
5. Install new headlight assembly into holder and secure with the four screws.
6. Install the light control unit and fasten with three screws.
7. Connect the wire connector to the headlight assembly.



# MAINTENANCE AND ADJUSTMENT

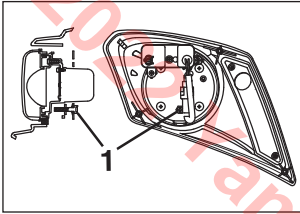
## ADJUSTING A HEADLIGHT

### NOTICE

It is recommended to have the headlight adjustment performed by a Yamaha dealer.

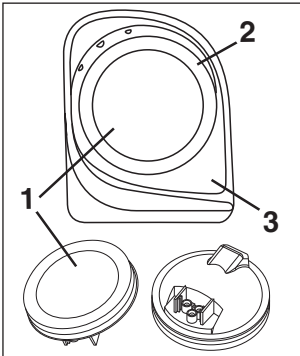
### TIP

The screw can be accessed from under the fender.



1. Adjusting screw

1. Using a Phillips head screwdriver, turn the adjusting screw.
2. Turning the screw clockwise will lower the beam and turning the screw counter-clockwise will raise the beam.



1. Bulb assembly
2. Rubber grommet
3. Bezel assembly

## REPLACING A TAILLIGHT UNIT

1. If a taillight does not come on, replace the Taillight unit removing the rubber grommet from the bezel assembly.
2. Remove the wire connector, replace the taillight unit, and reinstall by fitting the rubber grommet over the taillight unit and bezel.

# STORAGE

---

Perform the following preparations when storing your vehicle for extended periods of time.

## **NOTICE**

---

**Yamaha Golf-Car Company does not approve the use of high-pressure washers to clean the products they manufacture. Doing so may damage the finish on the body or result in doing other damage not covered by warranty.**

---

## **TIP**

---

Turn main switch key to “OFF” position, lift seat and put the tow switch in the “TOW” position. Remove key from main key switch, and store key in a safe place.

---

## **CHASSIS PREPARATION**

1. Verify the tire pressure is set to:  
Front: 84 kPa (0.84 kgf/cm<sup>2</sup>, 12 psi)  
Rear: 97 kPa (0.98 kgf/cm<sup>2</sup>, 14 psi)
2. Clean exterior of the vehicle and apply a rust inhibitor.
3. Cover the vehicle with a breathable cover and store it in a dry, well-ventilated area.

## **BATTERY PREPARATION**

1. Recharge the batteries and check the fluid levels at least once a month.

## **NOTICE**

---

**Do not allow cleaning solution to enter battery cells. Serious battery damage can result.**

---

2. Clean the tops of the batteries with a solution of baking soda and water, as necessary, to remove corrosion.

## GENERAL SPECIFICATIONS

| Items                                                                       | DR2 CAMP POWERTECH AC IRS                      |
|-----------------------------------------------------------------------------|------------------------------------------------|
| <b>Dimensions:</b>                                                          |                                                |
| Overall length                                                              | 2750 mm (108.3 in.)                            |
| Overall width                                                               | 1290 mm (50.8 in.)                             |
| Overall height (steering height)                                            | 1275 mm (50.2 in.)                             |
| Overall height (sun top height)                                             | 1860 mm (73.2 in.)                             |
| Height of floor                                                             | 375 mm (14.8 in.)                              |
| Wheelbase                                                                   | 1645 mm (64.8 in.)                             |
| Tread:                                                                      |                                                |
| Front                                                                       | 965 mm (38.0 in.)                              |
| Rear                                                                        | 1015 mm (40.0 in.)                             |
| Ground clearance                                                            | 160 mm (6.3 in.)                               |
| <b>Weight:</b>                                                              |                                                |
| Curb weight<br>(With Sun top, W/S, Flooded Battery)                         | 531 kg (1170 lb)                               |
| Curb weight<br>(With Sun top, W/S, AGM Battery)                             | 569 kg (1254 lb)                               |
| <b>Performance:</b>                                                         |                                                |
| Factory speed setting                                                       | 24.0 km/h (15.0 mph)                           |
| Maximum speed                                                               | 24.0 km/h (15.0 mph)                           |
| Minimum turning radius                                                      | 3.0 m (9.8 ft)                                 |
| Seating capacity                                                            | Two occupants per seat, four occupants maximum |
| Vehicle rated capacity<br>(passengers, cargo, trailer, access)              | 340 kg (749.6 lb)                              |
| Gross vehicle weight<br>(curb & vehicle rate capacity with Flooded battery) | 871 kg (1920 lb)                               |
| Gross vehicle weight<br>(curb & vehicle rate capacity with AGM battery)     | 909 kg (2004 lb)                               |

# SPECIFICATIONS

## TRANSMISSION

| Items                              | DR2 CAMP POWERTECH AC IRS                                                                                                                                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Differential/reduction gear</b> | Secondary reduction system helical gear<br>Secondary reduction ratio:<br>Forward/Reverse 12.44:1<br>Differential type bevel gear<br>Lubricant/capacity SAE 80W-90 or SAE 90 gear oil/475 cc (475 mL, 0.50 US qt) |

## BATTERIES

| Items                              | DR2 CAMP POWERTECH AC IRS                            |
|------------------------------------|------------------------------------------------------|
| <b>Flooded battery:</b>            | Trojan - T-875 (6x8-volt)<br>RC: minimum 117 min     |
| <b>AGM battery:<br/>(Optional)</b> | Trojan - T-875 AGM (6x8-volt)<br>RC: minimum 118 min |

## CHASSIS

| Items                                   | DR2 CAMP POWERTECH AC IRS                                               |
|-----------------------------------------|-------------------------------------------------------------------------|
| <b>Suspension:</b>                      |                                                                         |
| Front                                   | Independent (oil-over strut type)                                       |
| Rear                                    | Independent (oil-over strut type)                                       |
| <b>Steering system:</b>                 |                                                                         |
| Type                                    | Rack and Pinion                                                         |
| Steering angle (L.H.)                   | 1.85 turn                                                               |
| Steering angle (R.H.)                   | 1.85 turn                                                               |
| <b>Brakes:</b>                          |                                                                         |
| Brake system                            | Mechanical drum brake on each rear wheel with self-adjusters            |
| Type of brake                           | Dual internal expanding shoe<br>Leading/trailing shoes (self-adjusting) |
| Brake pedal freeplay linkage adjustment | 50-55 mm (1.97-2.17 in.)                                                |
| <b>Parking brake</b>                    |                                                                         |
| Type                                    | Foot type; parking brake with automatic release.                        |

# SPECIFICATIONS

| Items                                                                    | DR2 CAMP POWERTECH AC IRS                  |
|--------------------------------------------------------------------------|--------------------------------------------|
| <b>Wheel</b>                                                             |                                            |
| Tire size:<br>(Dia. [in]) × (Width [in]) - (Rim size [in]) / Ply rating) |                                            |
| Front                                                                    | 20 × 10-8 4PR                              |
| Rear                                                                     | 20 × 10-8 4PR                              |
| Rim size:<br>(Dia. [in]) × (Width [in]) (Offset [mm])                    | 8 × 7.2 +23                                |
| <b>Tire pressure:</b>                                                    |                                            |
| Front                                                                    | 84 kPa (0.84 kgf/cm <sup>2</sup> , 12 psi) |
| Rear                                                                     | 97 kPa (0.98 kgf/cm <sup>2</sup> , 14 psi) |
| <b>Lights:</b>                                                           |                                            |
| Headlight                                                                | LED                                        |
| Taillight                                                                | 12 V BULB                                  |

# SPECIFICATIONS

## GENERAL SPECIFICATIONS (BATTERY CHARGER)

DC Output – see Operating Instructions

|                   |                                    |
|-------------------|------------------------------------|
| Voltage - nom (V) | 48                                 |
| Voltage - max (V) | 67.2                               |
| Current - max (A) | 18                                 |
| Battery Type      | Specific to selected algorithm     |
| Reverse Polarity  | Electronic protection – auto-reset |
| Short Circuit     | Electronic current limit           |

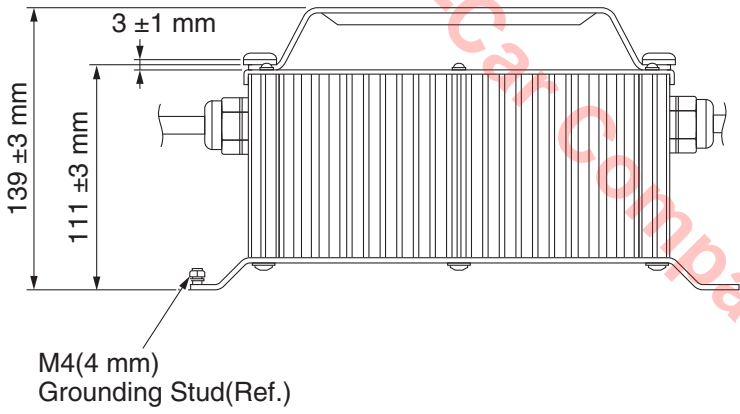
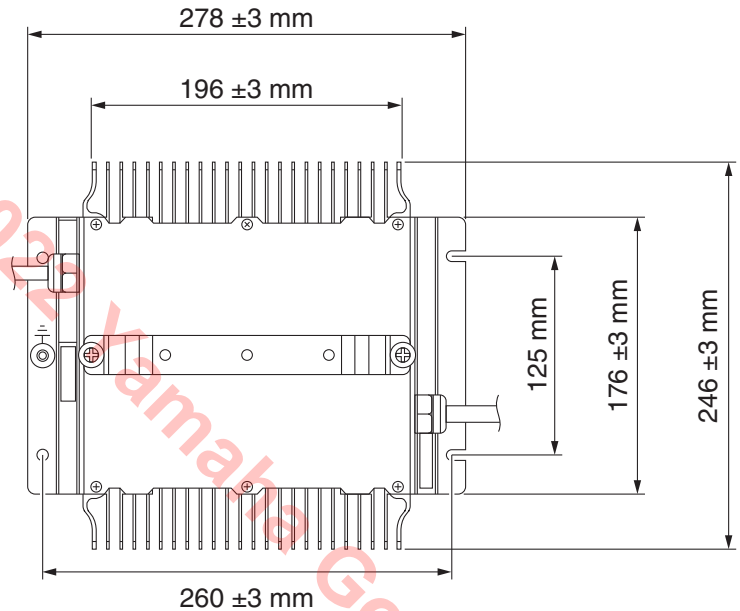
### AC Input

|                      |                                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------|
| Voltage - max (Vrms) | 85-265                                                                                              |
| Frequency (Hz)       | 45-65                                                                                               |
| Current - max (Arms) | 12A @ 100VAC / 11.5A @ 110VAC /<br>6.1A @ 200VAC / 5.6A @ 220VAC /<br>5.4A @ 230VAC / 5.1A @ 240VAC |
| Current - nom (Arms) | 10A @ 120VAC / 6A @ 200VAC /<br>5.5A @ 220VAC                                                       |
| AC Power Factor      | >0.98 at nominal input current                                                                      |

### Mechanical

|                       |                                                                    |
|-----------------------|--------------------------------------------------------------------|
| Dimensions            | 28.0 × 24.5 × 14.0 cm (11 × 9.7 × 5.5 in.)                         |
| Weight                | <5 kg (12 lbs)                                                     |
| Environmental         | Enclosure: IP20                                                    |
| Operating Temperature | -30°C to +50°C ( -22°F to 122°F), derated<br>above 30°C, below 0°C |
| Storage Temperature   | -40°C to +70°C (-40°F to 158°F)                                    |
| AC Input Connector    | IEC320/C14<br>(require ≥ 1.8 m localized cord)                     |
| Safety Timeout        | 20.5 hours (24.5 hours when boosting)                              |

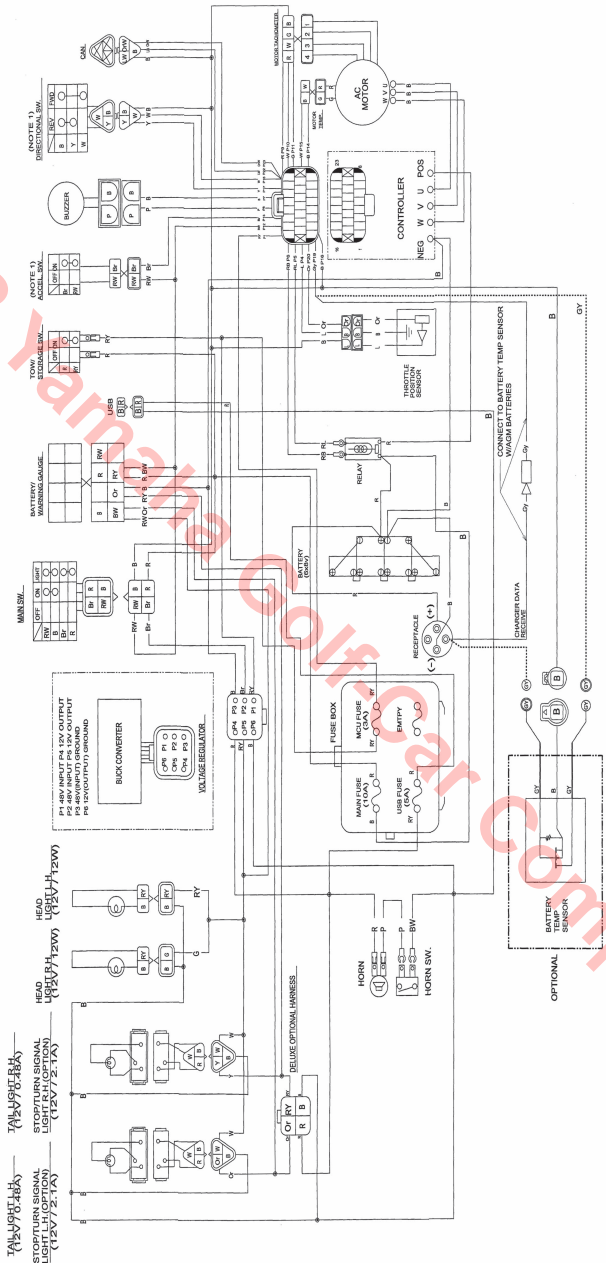
MECHANICAL DRAWINGS (BATTERY CHARGER)



# WIRING

## WIRING DIAGRAM

NOTES:  
1. ALL CONTACTS ARE METAL CONTACTS ARE REQUIRED.  
2. TYPICAL SIGNAL IS 10VDC.  
3. TYPICAL SIGNAL IS 10VDC.  
4. TYPICAL SIGNAL IS 10VDC.  
5. TYPICAL SIGNAL IS 10VDC.  
6. TYPICAL SIGNAL IS 10VDC.  
7. TYPICAL SIGNAL IS 10VDC.  
8. TYPICAL SIGNAL IS 10VDC.  
9. TYPICAL SIGNAL IS 10VDC.  
10. TYPICAL SIGNAL IS 10VDC.



©2022 Yamaha Golf-Car Company

## CONTENTS

### 1 WARRANTY

### 2 IMPORTANT LABELS

### 3 SAFETY INFORMATION

### 4 CONTROLS

### 5 PRE-OPERATION CHECKS

### 6 OPERATION

### 7 MAINTENANCE AND ADJUSTMENT

### 8 STORAGE

### 9 SPECIFICATIONS

### 10 WIRING

